

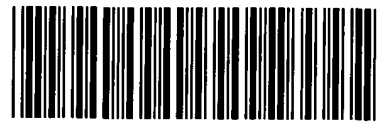
Annual Report  
and Accounts  
2016

a deeper  
understanding  
of respiratory  
biology

synairgen plc

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COMPANIES HOUSE

Stock symbol: LSE:SNG  
[www.synairgen.com](http://www.synairgen.com)

## Strategy

Synairgen leverages its deep understanding of respiratory biology to discover and develop novel therapies in the areas of highest unmet respiratory medical need, including severe asthma, COPD and IPF. Using our BioBank platform (our human tissue models of respiratory disease), and our clinical trial capabilities, Synairgen's strategy is to identify novel drug targets, progress them through early stage clinical trials and out-license them to partners for progression to market.

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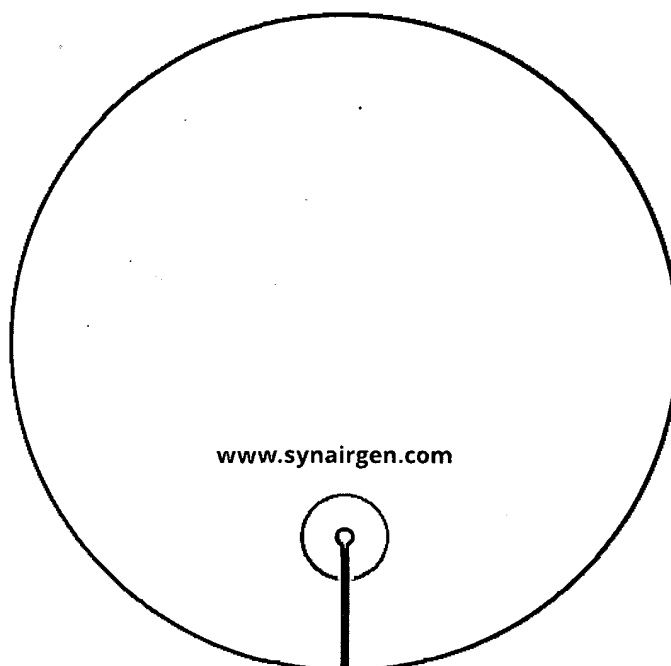
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*The cover image is a cross section showing organisation of the collagen fibres in the in vitro fibroblastic focus model of IPF.*

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## Operational highlights

- Positive *in vitro* results in March 2016 from collaboration with Pharmaxis to develop the LOXL2 inhibitor as a novel treatment for idiopathic pulmonary fibrosis (IPF)
- AstraZeneca stopped the Phase IIa trial of AZD9412, as coughs were not causing as many severe exacerbations as expected in the trial population potentially compromising the trial's ability to assess any effect of the drug on this endpoint

## Financial highlights

- Loss from operations for the year ended 31 December 2016 was £3.44 million (2015: £2.61 million)
- Research and development expenditure for the year was £2.42 million (2015: £1.36 million)
- Cash, cash equivalents and deposit balances of £4.77 million at 31 December 2016 (2015: £7.71 million). The Group remains debt free

## Post period-end highlights

- Further positive data in March 2017 from two preclinical models of Synairgen's LOXL2 inhibitor programme against IPF
- AZD9412 INEXAS clinical trial update, announcing AstraZeneca's decision to return the rights of inhaled interferon beta to Synairgen

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# Strategic Report

The directors present their Strategic Report for the year ended 31 December 2016.

## Principal activities

Synairgen plc (the 'Company') is the holding company for Synairgen Research Limited, a respiratory drug discovery and development company.

## Operating Review

### Summary

During 2016 we made excellent progress in collaboration with Pharmaxis to develop a LOXL2 inhibitor to treat or prevent fibrosis and are on schedule to progress a compound into the clinic in H2 2017. AstraZeneca progressed the INEXAS trial of AZD9412 (inhaled interferon beta or IFN-beta) through the midway point, but stopped the trial early due to a lower than expected number of exacerbation events across the trial population.

Post period-end, in April 2017, AstraZeneca decided to return the interferon beta programme to Synairgen. We are very encouraged to observe that in the INEXAS trial inhaled IFN-beta once again 'switched on' antiviral defences in the lung and improved lung function, confirming our earlier clinical trial findings. Furthermore, inhaled IFN-beta was well tolerated. All data are being returned to Synairgen from AstraZeneca for further scrutiny. Once an in-depth analysis of these data has been concluded, we will determine the future development plan for IFN-beta in respiratory indications and under Synairgen control. Based on encouraging and recently published and unpublished work (from emerging research at the University of Southampton) the opportunity for further clinical development for COPD patients will be actively investigated.

### LOXL2 inhibitor collaboration

In 2015 we signed a collaboration agreement with Pharmaxis to co-develop their orally bioavailable LOXL2 inhibitors for the treatment and/or prevention of fibrosis. Fibrosis or scarring is part of the normal wound-healing process. However, when excessive fibrosis occurs in an organ, the build-up of scar tissue can change its structure and stop it from functioning properly and cause disease. For example, in the fatal lung disease idiopathic pulmonary fibrosis (IPF) the accumulation of scar tissue affects the uptake of oxygen into the blood and stiffens the lungs, making it harder to breathe. Scar tissue is formed largely of collagen. LOXL2 is a member of a family of enzymes that stiffen scar tissue by forming

cross-links between the collagen molecules. It is believed that treatment with a LOXL2 inhibitor will reduce the stiffness of fibrotic tissue and thus alter the course of disease. Supporting this approach, levels of LOXL2 have been found to be elevated in fibrotic disease and inhibition of LOXL2 has been shown to be protective in preclinical models of fibrosis in different organs.

In the collaboration, Synairgen is investigating the effects of the LOXL2 inhibitors for IPF, whilst in parallel, Pharmaxis is generating data to support the rationale for using these inhibitors in liver fibrosis (NASH), kidney fibrosis and heart fibrosis. Individually these diseases represent areas of high unmet medical need and consequently significant market opportunities. Together they represent a substantial opportunity for a novel approach, as reflected in the number and commercial value of recent licensing/acquisition transactions occurring in this area.

*In vitro* models, which use tissue from patients with IPF, have been developed in collaboration with University of Southampton scientists to test the LOXL2 inhibitors. During the year we have shown that we can reduce collagen cross-link formation in these models in a dose-dependent manner. Post period-end, as announced in March 2017, we have shown that this leads to a reduction in the stiffness of the tissue. We subsequently went on to show that the compounds reduced fibrosis and improved lung function in an *in vivo* model of lung fibrosis run by McMaster University, Canada. These data support the rationale and the development of these particular compounds for treatment of fibrotic disease. We are currently progressing these compounds towards the clinic and, subject to satisfactory completion of preclinical testing, a Phase I clinical trial is scheduled to start in H2 2017.

We are very pleased with the progress that has been made in this programme; this is an exciting area scientifically. We are encouraged by the significant level of interest in this programme from potential licensees, who will be following the Phase I trial developments closely.

### Inhaled interferon beta programme

The majority of asthma exacerbations are caused by respiratory viruses (common cold viruses), and the rationale to use inhaled interferon beta in asthma patients came from an observation made at the University of Southampton that levels of IFN-beta were lower in cell cultures from asthmatic patients than non-asthmatics during viral infection experiments. Furthermore, by normalising the IFN-beta levels there was less cell death, lower inflammatory markers, and lower virus levels; IFN-beta was protective. We went on to show that the drug was well tolerated in a Phase I trial and that antiviral defences were 'switched on'. In our SG005 Phase II trial asthma patients were treated with inhaled IFN-beta at the start of a suspected cold infection, and again we demonstrated that the drug had 'switched on' antiviral defences in the lungs. We also showed that inhaled IFN-beta provided an overall improvement in morning peak expiratory flow (an important measure of lung function), and in a subgroup from the trial (the 'difficult to treat' patients), who represented about 40% of the trial population, inhaled IFN-beta prevented a worsening of asthma control. Furthermore, patients on inhaled IFN-beta used fewer puffs of their rescue medication, reaching statistical significance on some days.

The findings by AstraZeneca in its Phase II INEXAS study were unexpected and contrary to the literature reporting a link between viruses and exacerbations of asthma. We are however very encouraged to observe that the lungs' antiviral defences had been switched on – as demonstrated by significant changes in an accepted biomarker of the interferon pathway. Indeed this is the third trial where this activation has been shown. Furthermore on an objective measure we saw that treatment with inhaled IFN-beta resulted in an improved morning peak expiratory flow of 19.7L/min ( $p=0.01$ ). The day-by-day changes in this parameter closely mirror the changes we observed in our Phase II study. Once again inhaled IFN-beta was well tolerated. All data from the INEXAS trial will be provided to Synairgen and we will study each parameter in detail to guide future development.

We are particularly interested in using inhaled IFN-beta in COPD. Two new publications<sup>1,2</sup> in 2017 have shown that cold viruses are highly likely to cause exacerbations in COPD, which contrasts with the findings in asthma from the INEXAS trial, where only around 10% of patients exacerbated during cold infections. There is also a greater clinical need in COPD compared to asthma as exacerbations in COPD patients are linked to a rapid and permanent deterioration of disease and death. New technology has recently emerged which will enable us to confirm viral infection prior to commencing treatment, making trial management and interpretation easier. Thus the new data linking viruses to exacerbations, a better understanding of the underlying biology in COPD, the high clinical need, and new diagnostic technology presents us with an attractive opportunity to explore the drug's full potential.

### Key performance indicators (KPIs)

The Board considers that the most important KPIs are non-financial and relate to the progress of the scientific programmes which are discussed in the preceding section of this report.

The most important financial KPIs are the cash position and operating result of the Group. At 31 December 2016 cash and deposit balances amounted to £4.77 million (2015: £7.71 million) and were above budgeted levels. The operating loss of £3.44 million (2015: loss of £2.61 million) was also favourable to the budgeted result for the year.

#### References

1. Wilkinson TMA *et al.* A prospective, observational cohort study of the seasonal dynamics of airway pathogens in the aetiology of exacerbations in COPD. *Thorax* 2017; 0: 1-9
2. Johnston N *et al.* Colds as predictors of the onset and severity of COPD exacerbations. *International Journal of COPD* 2017;12 839-848

# Novel LOXL2 inhibitors have the potential to improve lung function in patients suffering from lung fibrosis

**Hypothesis: Reducing the stiffness of collagen matrix breaks the cycle of fibrosis and promotes the breakdown of the collagen matrix.**

Increased tissue stiffness is both a consequence and a driver of fibrosis of the lungs (scarring and thickening of alveoli and lung tissue, limiting the amount of oxygen that can pass into the blood vessels from affected alveoli).

## ***In vitro* LOXL2 inhibitor reduces tissue stiffness**

Lung fibroblast biopsies from IPF patients are cultured under optimised conditions to create fibroblastic focus model

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Synairgen and Pharmaxis have been collaborating since August 2015 to develop novel mechanism-based LOXL2-selective small molecular weight inhibitors for the treatment of fibrotic diseases such as idiopathic pulmonary fibrosis (IPF). Together, they have successfully profiled novel, orally bioavailable, LOXL2-selective small molecule inhibitors in *in vitro* and *in vivo* models of lung fibrosis.

Treatment with LOXL2-selective inhibitors caused a dose-dependent reduction in collagen cross-link formation and matrix stiffness in an *in vitro* fibroblastic focus model. A corresponding reduction in lung tissue stiffness (elastance) and fibrosis score was shown in an *in vivo* model of lung fibrosis. These data suggest that inhibition of LOXL2 using these novel inhibitors has the potential to improve lung function in patients with lung fibrosis by reducing tissue stiffness.

### ***In vivo* LOXL2 inhibitor reduces fibrosis and tissue stiffness**

**A LOXL2 inhibitor was profiled in a model of progressive lung fibrosis initiated by local expression of the pro-fibrotic mediator TGF- $\beta$  in the lungs using a non-replicating adenoviral vector, conducted at McMaster University (Hamilton, Canada)**

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# Strategic Report

(continued)

## Financial Review

The Financial Review should be read in conjunction with the consolidated financial statements of the Company and Synairgen Research Limited (together the 'Group') and the notes thereto on pages 21 to 34. The consolidated financial statements are presented under International Financial Reporting Standards as adopted by the European Union.

The financial statements of the Company, set out on pages 35 to 38, are prepared in accordance with Financial Reporting Standard 100 *Application of Financial Reporting Requirements* and Financial Reporting Standard 101 *Reduced Disclosure Framework*.

### Statement of Comprehensive Income

The loss from operations for the year ended 31 December 2016 was £3.44 million (2015: loss £2.61 million). Research and development expenditure for the year amounted to £2.42 million (2015: £1.36 million), with the increase in expenditure being attributable to the increased expenditure on the LOXL2 programme. This programme commenced in August 2015 and during 2016 as discussed further above the major elements of expenditure have been on chemistry, manufacturing, pharmacology and pre-clinical studies.

Other administrative costs for the year amounted to £1.02 million (2015: £1.28 million), with the reduction over the prior year being attributable to lower staff costs (no executive bonuses) and lower legal costs (2015 included costs associated with the Pharmaxis transaction). The research and development tax credit amounted to £0.59 million (2015: £0.30 million), with the increase being attributable to the higher expenditure on the LOXL2 programme. The loss after tax for 2016 was £2.82 million (2015: loss of £2.26 million) and the basic loss per share amounted to 3.08p (2015: basic loss per share of 2.47p).

### Statement of Financial Position and cash flows

At 31 December 2016, net assets amounted to £4.69 million (2015: £7.35 million), including net funds, as detailed below in Capital structure and funding, of £4.77 million (2015: £7.71 million).

The principal elements of the £2.94 million decrease over the year ended 31 December 2016 (2015: £1.89 million decrease) in net funds were:

- Cash used in operations of £3.32 million (2015: £1.99 million); and
- Research and development tax credits received of £0.33 million (2015: £0.06 million).

## Capital structure and funding

The Group is funded by equity capital, reflecting the early stage nature of its discovery and development programmes.

The Group considers its capital to be its total equity, which at 31 December 2016 amounted to £4.69 million (2015: £7.35 million). The Group's objectives when managing capital are to safeguard the Group's ability to continue as a going concern in order to provide returns to equity holders of the Company and benefits to other stakeholders and to maintain an optimal capital structure to reduce the cost of capital. The Group manages this objective through tight control of its cash resources and, upon reaching significant drug development programme milestones (to decrease investment risk), by raising additional equity from shareholders to meet its forecast future cash requirements.

Net funds held by the Group at 31 December 2016 amounted to £4.77 million and comprised short-term deposits (with original maturities of greater than three months and less than one year) and cash and cash equivalents, as shown below:

	31 Dec				
	2016	2015	2014	2013	2012
	£m	£m	£m	£m	£m
Short-term deposits	1.66	3.72	6.75	0.46	1.43
Cash and cash equivalents	3.11	3.99	2.85	0.83	1.66
Net funds	4.77	7.71	9.60	1.29	3.09

The Group did not have any bank borrowings as at 31 December 2016 (2015: £nil).

There have been seven significant issues of shares with the following amounts (net of costs) raised: £0.62 million (August 2003); £8.98 million (from IPO on AIM in October 2004); £6.20 million (June 2009); £2.50 million (June 2011); £2.35 million (July 2012); £1.42 million (March 2014); and £4.98 million (July 2014). The other major sources of funding received by the Group from the formation of the business until 31 December 2016 have been: revenues from licensing transactions of £4.25 million, research and development tax credits of £3.05 million, bank interest of £1.71 million, and revenues from collaborative work of £0.67 million.

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## Treasury policy and financial risk management

### **Credit risk**

The Group follows a risk-averse policy of treasury management. Sterling deposits are held with one or more approved UK-based financial institutions and in the Institutional Cash Series plc Institutional Sterling Liquidity Fund managed by BlackRock Investment Management (UK) Limited. The Group's primary treasury objective is to minimise exposure to potential capital losses whilst at the same time securing prevailing market rates.

### **Interest rate risk**

The Group's cash held in current bank accounts is subject to the risk of fluctuating base rates. An element of the Group's financial assets is placed on fixed-term interest deposits. The interest rate profile of financial assets is illustrated in note 16 to the financial statements.

### **Currency risk**

During the year under review, the Group was exposed to Australian dollar, Canadian dollar, Euro and US dollar currency movement as the Pharmaxis collaboration involves expenditure in all these currencies. The largest exposure relates to the Australian dollar on account of work undertaken by Pharmaxis and which is billed on a quarterly basis. To hedge against currency movement the Group purchases Australian dollars during the quarter before the payment is due.

## Principal risks and uncertainties

The Board considers that the principal risks and uncertainties facing the Group may be summarised as follows:

### **• Reliance on the interferon beta and LOXL2 programmes**

The Group's most advanced drug development programme is the interferon beta programme. With AstraZeneca's strategic decision post year-end to return the programme, the Group will complete an analysis of the INEXAS trial data and determine the most appropriate development route for the programme.

In 2015 the Group entered into the LOXL2 collaboration agreement with Pharmaxis Ltd.

The Group continues to review a number of additional development opportunities which it hopes will enable it to broaden and diversify its portfolio further.

### **• Failure to generate innovative discoveries**

There can be no guarantee that the Group will successfully develop new pharmaceutical products.

### **• Loss of the BioBank**

The Group's BioBank of well-characterised human tissue, which has been built up over many years, is a key element of its technology platform and is very important in relation to the development of future opportunities.

The Group follows a defined policy to minimise the chances of loss of the BioBank, including storing it in a number of different locations at Southampton General Hospital and monitoring the storage temperature 24 hours a day.

### **• Pre-clinical development, clinical development, and regulatory risk**

The development of pharmaceutical drugs requires that, upon satisfactory completion of pre-clinical work, the necessary safety and efficacy to be demonstrated in clinical programmes in order to meet the requirements of the appropriate regulatory bodies. There can be no guarantee that the necessary safety or efficacy will be demonstrated or that the clinical trials will not be delayed or extended. There can be no guarantee that any of the Group's therapies will be able to obtain or maintain the necessary regulatory approvals.

The Group seeks to reduce this risk by seeking advice from toxicology experts, closely monitoring the progress of recruitment on clinical trials, drawing on the experience of its Founders, seeking advice from regulatory advisers, holding consultations with the appropriate regulatory bodies, and consulting with its collaboration partners.

### **• Intellectual property risk**

The commercial success of the Group depends on its ability to obtain patent protection for its pharmaceutical discoveries in the US, Europe and other countries and to preserve the confidentiality of its know-how. There is no guarantee that patent applications will succeed or be broad enough to provide protection for the Group's intellectual property rights and exclude competitors with similar pharmaceutical products. The success of the Group is also dependent on non-infringement of patents, or other intellectual property rights, held by third parties. Competitors and third parties may hold intellectual property rights which the Group may not be able to license upon favourable terms, potentially inhibiting the Group's ability to develop and exploit its own business. Litigation may be necessary to protect the Group's intellectual property which may result in substantial costs.

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# Strategic Report

(continued)

The Group seeks to reduce this risk by seeking patent attorney advice that patent protection will be available prior to investing in a project, by seeking patent protection where appropriate and by minimising disclosure to third parties.

#### • *Commercial risk*

There can be no guarantee that the Group will succeed in securing and maintaining the necessary contractual relationships with licensing partners for its programmes under development. Even if the programmes are successfully out-licensed and pharmaceutical products are brought to market by a partner, there is no guarantee that such products will succeed in the marketplace.

The Group seeks to reduce this risk by structuring its development programmes to meet the needs and requirements of its potential partners and by engaging with partners who have the appropriate experience, resource and interest to bring such pharmaceutical products to the global marketplace.

#### • *Competition risk*

The Group's current and potential competitors include pharmaceutical and biotechnology companies and academic institutions, many of whom have significantly greater financial resources than the Group. There can be no assurance that competitors will not succeed in developing products that are more effective or economic than any developed by the Group, or which would render the Group's products non-competitive or obsolete.

#### • *Funding risk*

The Group continues to consume cash resources. Until the Group generates positive net cash inflows from successful out-licensing transactions and commercialisation of its products, it remains dependent upon securing additional funding through the injection of capital from share issues. The Group may not be able to generate positive net cash flows in the future or attract such additional funding required at all, or on suitable terms. In such circumstances, the Group's discovery and development programmes may be delayed or cancelled and the business operations curtailed.

The Group seeks to reduce this risk through tight financial control, prioritising programmes which will generate the best returns and keeping shareholders informed on progress.

#### • *Dependence on Founders, senior management and key staff*

The Founders and certain members of staff are highly skilled scientists and clinicians. The Group has deliberately pursued a lean headcount policy to conserve financial resources. Failure to continue to attract and retain such individuals could adversely affect operational results.

The Group seeks to reduce this risk by appropriate incentivisation of staff through participation in long term equity incentive schemes.

#### • *Brexit*

Following the referendum vote in June 2016 the UK government started the withdrawal process from the European Union in March 2017, putting the UK on course to leave by April 2019.


At this stage it is unclear as to what the long term impact will be. In the short term Sterling has weakened against major currencies and this has impacted on the cost of the Pharmaxis collaboration.

## Outlook

In summary we remain on track to advance a Pharmaxis compound into Phase I in H2 2017 and there is encouraging business development interest in similar anti-fibrotic assets. Building on the positive outcomes in the INEXAS trial, we will continue to analyse the full data set as it becomes available, alongside further published and unpublished work in COPD, to establish the best route forward for this programme.

By order of the Board

**John Ward**  
Company Secretary



16 May 2017

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# Synairgen's Founders

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**Prof. Stephen Holgate** CBE  
is MRC Clinical Professor of  
Immunopharmacology at the  
University of Southampton

**Prof. Donna Davies**  
is Professor of Respiratory  
Cell and Molecular Biology  
at the University of  
Southampton

**Prof. Ratko Djukanovic**  
is Professor of Medicine  
at the University of  
Southampton

# Directors

## **Simon Shaw**

*Non-executive Chairman*

Simon Shaw joined Synairgen as executive Chairman on its inception in June 2003 and became non-executive Chairman in October of that year. He is Group Chief Financial Officer of Savills plc. He was Chief Financial Officer of Gyrus Group PLC from 2003 until its sale to Olympus Corporation in 2008, having previously been Chief Operating Officer of Profile Therapeutics plc between 1998 and 2003. Between 1991 and 1997 he was a corporate financier, latterly at Hambros Bank Limited. He is a chartered accountant.

## **Richard Marsden**

*Chief Executive Officer*

Richard Marsden joined Synairgen in a consulting role as General Manager in November 2003, was appointed to the Board as Managing Director in June 2004 and appointed Chief Executive Officer in September 2009. Between 1998 and 2003 he worked as Projects Manager and Cystic Fibrosis Business Development Manager at Profile Therapeutics plc, where he managed the Cystic Fibrosis business and played a major role in the development of its proprietary pharmaceutical unit, Profile Pharma Limited. Prior to this, he worked for Zimmer Limited, Genentech (UK) Limited and Roche Products Limited.

## **Dr Phillip Monk**

*Chief Scientific Officer*

Phillip Monk joined Synairgen in October 2006 as Head of Bioscience Development and was appointed to the Board as Chief Scientific Officer in September 2009. Phillip was previously Director of the Respiratory and Inflammation Biology group at Cambridge Antibody Technology ('CAT') and led the scientific development of tralokinumab, an anti-IL-13 antibody being developed for the treatment of severe asthma. Prior to joining CAT, he worked at Bayer AG within the respiratory disease therapeutic area, focusing on the development of novel therapies for asthma, COPD and cystic fibrosis.

## **John Ward**

*Finance Director*

John Ward joined Synairgen in October 2004 as Finance Director. From December 1999 to July 2004 he was Chief Financial Officer and Company Secretary of Profile Therapeutics plc and was appointed to the Profile Therapeutics board in March 2003. From 1996 to 1999 he was Finance Director of Rapid Deployment Group Limited, the UK holding company for the healthcare operations of Ventiv Health, Inc. Prior to joining Rapid Deployment he was a Director of Corporate Finance at Price Waterhouse. He is a chartered accountant.

## **Iain Buchanan**

*Non-executive Director*

Iain Buchanan was appointed as a non-executive director in June 2010 and brings to the company over 40 years of management experience in the pharmaceutical and biotech industries. Most recently he was CEO of NOXXON Pharma AG based in Berlin and previously he was CEO of Novoxel S.A. based in Paris. He joined Novoxel from Vertex Pharmaceuticals where he established the European affiliate. Prior to Vertex, Iain managed the international licensee business of Cilag AG - a subsidiary of Johnson and Johnson - based in Switzerland. Iain serves as a member of the supervisory board of NOXXON Pharma AG.

## **Paul Clegg**

*Non-executive Director*

Paul Clegg was appointed as a non-executive director of Synairgen in September 2009. He is Chief Executive Officer of Accsys Technologies PLC, Chairman of Tricoya Technologies Ltd and a non-executive director of Peel Hunt LLP. Paul was previously Managing Director and Chief Executive Officer of Cowen International Limited and director of Cowen Asset Management Limited until June 2008. After over twenty years working in the investment banking industry, Paul joined Accsys Technologies PLC, a UK publicly quoted company which has developed the process and the commercial industrialisation of wood acetylation, as Chief Executive Officer.

## **Dr Bruce Campbell**

*Non-executive Director*

Bruce Campbell joined Synairgen as a non-executive Director in April 2006. He has 45 years of drug development experience and has developed many drugs in a wide range of indications which are now on the market. He currently acts as a consultant to various companies including Proximagen Limited. Formerly he was Senior VP of International Development at Neurocrine Biosciences, Inc. ('Neurocrine'). Prior to joining Neurocrine he worked for 27 years at Servier (United Kingdom), latterly as Scientific Director. In addition, he has also been a director and European Chairman of the Drug Information Association, a member of the European ICH Safety Working Party and a scientific advisor to IP Group plc. He is a visiting Professor in Pharmacology at King's College, London.

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## **Prof. Stephen Holgate CBE**

*Non-executive Director*

Stephen Holgate is a co-founder of Synairgen and was appointed a non-executive director in June 2003. After qualifying in Medicine at Charing Cross Hospital Medical School, London he has pursued an academic career leading to his appointment in 1987 to his current position as Medical Research Council Clinical Professor of Immunopharmacology at the University of Southampton. His research interests have been largely focused on the cellular and molecular mechanisms of asthma that has involved use of both epidemiological and genetic approaches. He has published over 1000 papers in peer-reviewed literature. He is Member of the Science Europe Medical Science Committee and Horizon 2020 Health Science Panel; Board Chair of the National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs); Chairman of Defra's Hazardous Substances Advisory Committee; Trustee and Chair of the Research Strategy Committee of Cancer Research UK; Chair of the research Committee of the British Lung Foundation (and Trustee); and a Trustee of The Kennedy Trust for Rheumatology Research. He serves on a number of Advisory Committees in industry including scientific board member or advisor to a number of companies, including Teva and Novartis.

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# Directors' Report

The directors present their report and the audited financial statements for Synairgen plc (the 'Company') and its subsidiary (together the 'Group') for the year ended 31 December 2016.

The review of future developments and the use of financial instruments and financial risk management policies are covered in the Strategic Report. Details of directors' remuneration and share options are given in the Directors' Remuneration Report.

## Research and development

During the year ended 31 December 2016, the Group has invested £2,418,000 (2015: £1,355,000) in research and development activities and a review of this expenditure is included in the Strategic Report.

## Dividends

The directors do not propose the payment of a dividend.

## Substantial shareholdings

As at 16 May 2017, the Company had been advised of the following shareholders with interests of 3% or more in its ordinary share capital:

Name of shareholder	Number of ordinary shares	% of share capital
Woodford Investment Management LLP	21,091,651	23.1%
Lansdowne Partners International Limited	16,923,111	18.5%
Richard Griffiths	10,136,512	11.1%
Leonard Licht	3,700,000	4.1%
Southampton Asset Management Limited	3,600,000	3.9%

## Directors

The directors of the Company during the year ended 31 December 2016 were:

### Executive directors:

Richard Marsden (Chief Executive Officer)  
Dr Phillip Monk (Chief Scientific Officer)  
John Ward (Finance Director)

### Non-executive directors:

Simon Shaw (Chairman)  
Iain Buchanan  
Dr Bruce Campbell  
Paul Clegg  
Prof. Stephen Holgate CBE

## Directors' interests in ordinary shares

The directors, who held office at 31 December 2016, had the following interests in the ordinary shares of the Company:

	1 January and 31 December 2016 Number of shares
Richard Marsden	154,432
Dr Phillip Monk	183,439
John Ward	276,506
Simon Shaw (i)	1,474,096
Iain Buchanan	112,741
Dr Bruce Campbell (ii)	294,259
Paul Clegg (iii)	204,244
Prof. Stephen Holgate (iv)	858,360

- (i) Simon Shaw's shareholding includes 105,516 shares held in his pension plan.
- (ii) Dr Bruce Campbell's shareholding includes 40,299 shares owned by his wife, Susan Campbell.
- (iii) Paul Clegg's shareholding includes 180,149 shares held in his pension plan.
- (iv) Prof. Stephen Holgate's shareholding includes 1,923 shares owned by his wife, Elizabeth Holgate.

Between 31 December 2016 and the date of this report there has been no change in the interests of directors in shares as disclosed in this report.

## Directors' and officers' liability insurance

Qualifying indemnity Insurance cover has been arranged in respect of the personal liabilities which may be incurred by directors and officers of the Group during the course of their service with the Group. This insurance has been in place during the year and on the date of this report.

## Auditors

All of the current directors have taken all the steps that they ought to have taken to make themselves aware of any information needed by the Company's auditors for the purposes of their audit and to establish that the auditors are aware of that information. The directors are not aware of any relevant audit information of which the auditors are unaware.

By order of the Board

**John Ward**  
Company Secretary

16 May 2017



# Corporate Governance

The Board is accountable to the Company's shareholders for good corporate governance and it is the objective of the Board to attain a high standard of corporate governance. As an AIM-quoted company, full compliance with The UK Corporate Governance Code (the 'Code') is not a formal obligation. The Company has not sought to comply with the full provisions of the Code, however it has sought to adopt the provisions that are appropriate to its size and organisation and establish frameworks for the achievement of this objective. This statement sets out the corporate governance procedures that are in place.

## Board of Directors

On 31 December 2016 the Board of directors (the 'Board') consisted of a non-executive Chairman (Simon Shaw), three executive directors (Richard Marsden, Dr Phillip Monk and John Ward), and four non-executive directors (Iain Buchanan, Dr Bruce Campbell, Paul Clegg and Prof. Stephen Holgate). Brief details about the directors are given on pages 11 and 12. The responsibilities of the non-executive Chairman and the Chief Executive Officer are clearly divided. The non-executive directors bring relevant experience from different backgrounds and receive a fixed fee for their services and reimbursement of reasonable expenses incurred in attending meetings.

The Board retains full and effective control of the Group. This includes responsibility for determining the Group's strategy and for approving budgets and business plans to fulfil this strategy. During the year with the introduction of biannual Scientific Advisory Board meetings the number of scheduled full Board meetings per year ('Scheduled Board meetings') was reduced from seven meetings to five meetings. It also meets on any other occasions it considers necessary. During the year ended 31 December 2016, the Board met six times for Scheduled Board meetings, with each member attending as follows:

Director	Number of meetings held whilst a Board member	Number of meetings attended
Simon Shaw	6	6
Richard Marsden	6	6
Dr Phillip Monk	6	5
John Ward	6	6
Iain Buchanan	6	5
Dr Bruce Campbell	6	6
Paul Clegg	6	6
Prof. Stephen Holgate	6	4

In addition there were three other meetings, to which Board members were invited, during the year.

It is the duty of the Chairman to ensure that all directors are properly briefed on issues arising at Board meetings. Prior to each Board meeting, directors are sent an agenda and Board papers for each agenda item to be discussed. Additional information is provided when requested by the Board or individual directors.

The Company Secretary is responsible to the Board for ensuring that Board procedures are followed and that the applicable rules and regulations are complied with. All directors have access to the advice and services of the Company Secretary, and independent professional advice, if required, at the Company's expense. Removal of the Company Secretary would be a matter for the Board.

As appropriate, the Board has delegated certain responsibilities to Board committees.

## Audit Committee

The Audit Committee currently comprises Simon Shaw (Chairman), Iain Buchanan and Dr Bruce Campbell. Whilst it is not normal in larger companies for the chairman of the Company to chair the Audit Committee, the Company considers it appropriate for Simon Shaw to be Chairman as he is considered to have the most significant, recent and relevant financial experience of the non-executive directors.

The committee has primary responsibility for ensuring that the financial performance of the Group is properly measured and reported on and it reviews the interim financial information and annual financial statements before they are submitted to the Board. The committee reviews accounting policies and material accounting judgements. The committee also reviews, and reports on, reports from the Group's auditors relating to the Group's accounting controls. It makes recommendations to the Board on the appointment of auditors and the audit fee. The committee monitors the scope, results and cost-effectiveness of the audit. It has unrestricted access to the Group's auditors. In certain circumstances it is permitted by the Board for the auditors to supply non-audit services (in the provision of tax advice, or on specific projects where they can add value). The committee has approved and monitored the application of this policy in order to safeguard auditor objectivity and independence. The overall fees paid to the auditors are not deemed to be of such significance to them as to impair their independence. The Group does not have an internal audit function, but the Board considers that this is appropriate, given the size of the Group. The committee keeps this matter under review annually. During the year ended 31 December 2016, the committee met four times with Simon Shaw and Iain Buchanan attending all meetings and Dr Bruce Campbell three meetings.

# Corporate Governance

(continued)

## Remuneration and Nomination Committee

The Remuneration and Nomination Committee currently comprises Paul Clegg (Chairman), Dr Bruce Campbell and Simon Shaw. The committee is responsible for making recommendations to the Board on remuneration policy for executive directors and the terms of their service contracts, with the aim of ensuring that their remuneration, including any share options and other awards, is based on their own performance and that of the Group generally. The committee administers the Long-Term Incentive Plan, the staff share option scheme and the Qualifying Non-Employee Option Scheme and approves grants under all three schemes. It also advises on the remuneration policy for the Group's employees. The committee is responsible for all senior appointments that are made within the Group. During the year ended 31 December 2016, the committee met three times with Paul Clegg and Simon Shaw attending all meetings and Dr Bruce Campbell two meetings.

## Scientific Advisory Board

During the year the Company established a Scientific Advisory Board ('SAB'). The purpose of the SAB is to provide strategic advice and input on scientific aspects of Synairgen's research and development projects.

The SAB currently comprises Dr Phillip Monk (Chairman), Iain Buchanan, Dr Bruce Campbell, and Synairgen's three academic founders (Professors Stephen Holgate, Donna Davies and Ratko Djukanovic). Other external experts and Synairgen employees attend meetings as required. The SAB meets biannually on a scheduled basis with extra meetings as required. Dr Bruce Campbell is responsible for feeding back the outputs from the SAB to the Company's Board.

## Investor relations

The directors seek to build a mutual understanding of objectives between the Company and its shareholders by meetings with major institutional investors and analysts after the Company's preliminary announcement of its year-end results and its interim results. The Company also maintains investor relations pages on its website ([www.synairgen.com](http://www.synairgen.com)) to increase the amount of information available to investors.

There is an opportunity at the Annual General Meeting for individual shareholders to question the Chairman, the Chairmen of the Audit and Remuneration and Nomination committees, and the executive directors. Notice of the meeting is sent to shareholders at least 21 clear days before the meeting. Shareholders are given the opportunity to vote on each separate issue. The Company counts all proxy votes and will indicate the level of proxies lodged on each resolution, after it has been dealt with by a show of hands. Details of the resolutions and explanations thereto are included with the notice.

## Internal control

The directors are responsible for establishing and maintaining the Group's system of internal control and reviewing its effectiveness. The system of internal control is designed to manage, rather than eliminate, the risk of failure to achieve business objectives and can only provide reasonable but not absolute assurance against material misstatement or loss.

The main features of the internal control system are as follows:

- a control environment exists through the close management of the business by the executive directors. The Group has a defined organisational structure with delineated approval limits. Controls are implemented and monitored by personnel with the necessary qualifications and experience;
- a list of matters reserved for board approval;
- monthly management reporting and analysis of variances;
- financial risks for each major transaction are identified and evaluated by the Board; and
- standard financial controls operate to ensure that the assets of the Group are safeguarded and that proper accounting records are maintained.

By order of the Board

**John Ward**  
Company Secretary

16 May 2017



# Directors' Remuneration Report

This report is non-mandatory for AIM-quoted companies and has been produced on a voluntary basis. It includes and complies with the disclosure obligations of the AIM Rules.

## Remuneration Committee

The Company's remuneration policy is the responsibility of the Remuneration and Nomination Committee (the 'Committee'), which was established in October 2004. The terms of reference of the Committee are outlined in the Corporate Governance Statement on page 15. The members of the Committee are Paul Clegg (Chairman), Dr Bruce Campbell and Simon Shaw.

The Committee, which is required to meet at least twice a year, met three times during the year ended 31 December 2016. The Chief Executive Officer and certain executives may be invited to attend meetings of the Committee to assist it with its deliberations, but no executive is present when his or her own remuneration is discussed.

During the year, the Committee has been advised on director remuneration by its retained independent remuneration adviser, FIT Remuneration Consultants LLP. No other advice has been provided to the Group by this firm during the year.

## Remuneration policy

### (i) Executive remuneration

The Committee has a duty to establish a remuneration policy which will enable it to attract and retain individuals of the highest calibre to run the Group. Its policy is to ensure that the executive remuneration packages of executive directors and the fee of the Chairman are appropriate given performance, scale of responsibility, experience, and consideration of the remuneration packages for similar executive positions in companies it considers to be comparable. Packages are structured to motivate executives to achieve the highest level of performance in line with the best interests of shareholders. A significant element of the total remuneration package, in the form of bonus and long term incentive plan ('LTIP') awards, is performance driven.

Executive remuneration currently comprises a base salary, an annual performance-related bonus, LTIP participation, a pension contribution to the executive director's individual money purchase scheme (at 9% of base salary), family private health cover, permanent health and life assurance.

The previous salary and benefit review took effect from 1 January 2016. It is anticipated that the next review will take place in July 2017 taking into account Group and individual performance, external benchmark information and internal relativities.

Executive directors are also rewarded for improvements in the performance of the Group sustained over a period of years in the form of Long-Term Incentive Plan share awards granted on a discretionary basis by the Committee.

Directors' remuneration for the year ended 31 December 2016 is set out on page 18 of this document.

### (ii) Chairman and non-executive director remuneration

The Chairman and the non-executive directors receive a fixed fee of £25,000 per annum. The fixed fee covers preparation for and attendance at meetings of the full Board and committees thereof. A fee of £5,000 per annum is also paid for chairing each of the audit and remuneration committees. The Chairman and the executive directors are responsible for setting the level of non-executive remuneration. The non-executive directors are also reimbursed for all reasonable expenses incurred in attending meetings.

### (iii) Annual bonus plan

The Company operates a discretionary bonus scheme for executive directors for delivery of exceptional performance against relevant corporate objectives, which are subject to malus and clawback provisions. No bonuses were awarded for the year ended 31 December 2016.

### (iv) Equity-based incentive schemes

The Committee strongly believes that long term equity-based incentive schemes increase the focus of employees in improving Group performance, whilst at the same time providing a strong incentive for retaining and attracting individuals of a high calibre.

#### *Long Term Incentive Plan (LTIP)*

The Synairgen Long-Term Incentive Plan, comprising conditional (performance-related) share awards (technically structured as nominal cost options pursuant to which participants must pay 1p per share on the exercise of their awards) is the sole on-going long-term incentive vehicle for executive directors.

Senior executives and other employees may be granted an award which will normally vest if demanding performance conditions are achieved over a three-year period and if the grantee remains an employee of the Group.

Grants under the LTIP in any financial year are capped at a maximum of 100% of base salary.

No LTIP grants were made in 2016.

Executive directors are expected to retain no fewer than 50% of shares acquired upon vesting of awards under the LTIP, net of shares sold to pay taxes, until such time as, in combination with any other shares the executives may have acquired, they hold shares with a value equivalent to 100% of base salary.

All awards will lapse at the end of the applicable performance period to the extent that the applicable performance criteria conditions have not been satisfied with no opportunity for retesting. In the event of a good leaver event or a change of control of the Company, the LTIP awards may vest early, but only to the extent that, in the opinion of the Committee, the performance conditions have been satisfied at that time. The awards will generally also be subject to a time pro-rated reduction to reflect the reduced period of time between the grant of the awards and the time of vesting although this reduction may not be applied in certain cases.

# Directors' Remuneration Report

(continued)

## Performance conditions for the 2013, 2014 and 2015 LTIP awards

The performance conditions for all three awards were the same. The awards are subject to two conditions. Firstly, awards will only vest to the extent that the percentage increase in the total shareholder return ('TSR', being the return earned by a shareholder over the performance period in terms of change in the share price and assuming re-investment of any dividends in more shares at the prevailing price on the relevant ex-dividend date) of the Company over the three year performance period is equal or greater than the percentage increase in the techMARK mediscience™ index over the same period as follows:

TSR growth over the performance period less percentage increase in the techMARK mediscience™ index over the same period	Vesting percentage of total number of shares subject to award
Less than 0%	0%
0%	25%
10%	50%
20%	100%
Performance between the steps	Pro-rata on a straight-line basis

Secondly, no award will vest unless the average annual growth in the TSR of the Company over the performance period is equal to or greater than RPI plus 2% or, for more than 75% of an award to vest, annual average TSR must exceed RPI by at least 5% rather than 2%.

No awards became exercisable during 2016 as the performance criteria conditions for the awards granted in 2013 were not met and accordingly these awards lapsed.

## (v) Service contracts and letters of appointment

The executive directors have entered into service agreements which can be terminated on six months' notice by either party.

During the year ended 31 December 2016, the executive directors did not hold any non-executive directorships with other companies.

The Chairman and non-executive directors have entered into letters of appointment for an initial fixed period of twelve months, which renew automatically for a further twelve month period on the anniversary of commencement. The appointment can be terminated on three months' notice by either party.

## Directors' interests in share options

The interests of directors in share options over ordinary shares during the year were as follows:

### Synairgen Long-Term Incentive Plan

Date of grant	At 1 January 2016	Lapsed during the year	At 31 December 2016	Exercise price	Earliest exercise date	Expiry date
<b>Richard Marsden</b>						
7 September 2009	605,000	-	605,000	1p	7 Sept 2012	6 Sept 2019
8 September 2010	246,889	-	246,889	1p	8 Sept 2013	7 Sept 2020
21 September 2011	538,063	-	538,063	1p	21 Sept 2014	20 Sept 2021
11 March 2013	245,732	(245,732)	-	1p	11 Mar 2016	10 Mar 2023
3 November 2014	313,827	-	313,827	1p	3 Nov 2017	2 Nov 2024
27 October 2015	387,931	-	387,931	1p	27 Oct 2018	26 Oct 2025
<b>Dr Phillip Monk</b>						
21 September 2011	400,212	-	400,212	1p	21 Sept 2014	20 Sept 2021
11 March 2013	182,776	(182,776)	-	1p	11 Mar 2016	10 Mar 2023
3 November 2014	233,425	-	233,425	1p	3 Nov 2017	2 Nov 2024
27 October 2015	280,172	-	280,172	1p	27 Oct 2018	26 Oct 2025
<b>John Ward</b>						
7 September 2009	100,000	-	100,000	1p	7 Sept 2012	6 Sept 2019
8 September 2010	224,445	-	224,445	1p	8 Sept 2013	7 Sept 2020
21 September 2011	489,148	-	489,148	1p	21 Sept 2014	20 Sept 2021
11 March 2013	223,393	(223,393)	-	1p	11 Mar 2016	10 Mar 2023
3 November 2014	285,297	-	285,297	1p	3 Nov 2017	2 Nov 2024
27 October 2015	301,724	-	301,724	1p	27 Oct 2018	26 Oct 2025

No options were exercised by directors during the year.

## Other options granted under the Synairgen plc Staff Option Scheme

Date of grant	At 1 January 2016	Lapsed during the year	At 31 December 2016	Exercise price	Earliest exercise date	Expiry date
<b>Dr Phillip Monk</b>						
2 October 2006	50,000	(50,000)	-	85.5p	2 Oct 2009	1 Oct 2016

## Synairgen Qualifying Non-Employee Option Scheme

Date of grant	At 1 January and 31 December 2016	Exercise price	Earliest exercise date	Expiry date
<b>Iain Buchanan</b>				
28 June 2010	212,765	23.5p	28 June 2013	27 June 2020
<b>Paul Clegg</b>				
7 September 2009	250,000	20p	7 Sept 2012	6 Sept 2019

These awards were granted under a legacy plan. The exercise of the options awarded in September 2009 (which vested in 2012) and in June 2010 (which vested in 2013) is subject to the rules of the scheme.

There were no other options granted to directors or which were exercised or lapsed during the year. The mid-market price of the Company's shares at 31 December 2016 was 14.0p. During the year then ended, the mid-market price ranged from 13.5p to 37.0p. On 16 May 2017 the closing price was 11.25p.

## Audited information

The following section (Directors' remuneration) contains the disclosures required by Schedule 5 to the Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008, forms part of the financial statements for the year ended 31 December 2016 and has been audited by the Company's auditor, BDO LLP.

## Directors' remuneration

The remuneration received by directors who served during the years ended 31 December 2016 and 2015 was as follows:

£000	Note	Salary/ fee	Benefits	Year ended 31 December 2016			Year ended 31 December 2015		
				Total (excl. pension)	Pension	Total (incl. pension)	Total (excl. pension)	Pension	Total (incl. pension)
<b>Executive Directors</b>									
	(i)	182	2	184	16	200	255	16	271
		131	-	131	12	143	182	12	194
		141	2	143	13	156	198	13	211
<b>Non-executive Directors</b>									
		30	-	30	-	30	30	-	30
		25	-	25	-	25	25	-	25
		25	-	25	-	25	25	-	25
		30	-	30	-	30	30	-	30
		25	-	25	-	25	25	-	25
		589	4	593	41	634	770	41	811

(i) Richard Marsden was the highest paid director during the years ended 31 December 2016 and 2015. He did not exercise any options during either year.

(ii) The Company permits employees, including executive directors, to change their pension provision through an election under a flexible benefits arrangement. The reported numbers are before any personal elections.

In respect of key management personnel, for the year ended 31 December 2016, the total share-based payment amounted to £121,000 (2015: £137,000) and total social security costs were £59,000 (2015: £86,000).

By order of the Board

**Paul Clegg**

Chairman of the Remuneration and Nomination Committee

16 May 2017

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# Statement of Directors' responsibilities in respect of the Annual Report and the Financial Statements

The directors are responsible for preparing the annual report and the financial statements in accordance with applicable law and regulations.

Company law requires the directors to prepare financial statements for each financial period. Under that law the directors have elected to prepare the Group financial statements in accordance with International Financial Reporting Standards (IFRSs) as adopted by the European Union and the Company financial statements in accordance with Financial Reporting Standard 100 Application of Financial Reporting Requirements and Financial Reporting Standard 101 Reduced Disclosure Framework and applicable law. Under company law the directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the Group and Company and of the profit or loss of the Group for that period. The directors are also required to prepare financial statements in accordance with the rules of the London Stock Exchange for companies trading securities on the Alternative Investment Market.

In preparing these financial statements, the directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and accounting estimates that are reasonable and prudent;
- state whether they have been prepared in accordance with IFRSs as adopted by the European Union, subject to any material departures disclosed and explained in the financial statements; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Company will continue in business.

The directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Company's transactions and disclose with reasonable accuracy at any time the financial position of the Company and enable them to ensure that the financial statements

comply with the requirements of the Companies Act 2006. They are also responsible for safeguarding the assets of the Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

## Website publication

The directors are responsible for ensuring the annual report and financial statements are made available on a website. Financial statements are published on the Group's website in accordance with AIM rules for companies and legislation in the United Kingdom governing the preparation and dissemination of financial statements, which may vary from legislation in other jurisdictions. The maintenance and integrity of the Group's website is the responsibility of the directors. The directors' responsibility also extends to the ongoing integrity of the financial statements contained therein.

## Going concern

The directors have prepared and reviewed financial forecasts. After due consideration of these forecasts and current cash resources, the directors consider that the Company and the Group have adequate financial resources to continue in operational existence for the foreseeable future (being a period of at least twelve months from the date of this report), and for this reason the financial statements have been prepared on a going concern basis.

By order of the Board

**John Ward**  
Company Secretary

16 May 2017



# Independent Auditor's Report to the members of Synairgen plc

We have audited the financial statements of Synairgen plc for the year ended 31 December 2016 which comprise the Consolidated Statement of Comprehensive Income, the Consolidated Statement of Changes in Equity, the Consolidated Statement of Financial Position, the Consolidated Statement of Cash Flows, the Parent Company Balance Sheet, the Parent Company Statement of Changes in Equity and the related notes. The financial reporting framework that has been applied in the preparation of the group financial statements is applicable law and International Financial Reporting Standards (IFRSs) as adopted by the European Union. The financial reporting framework that has been applied in preparation of the parent company financial statements is applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice), including Financial Reporting Standard 101 'Reduced Disclosure Framework'.

This report is made solely to the company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members as a body, for our audit work, for this report, or for the opinions we have formed.

## Respective responsibilities of directors and auditors

As explained more fully in the statement of directors' responsibilities, the directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view. Our responsibility is to audit and express an opinion on the financial statements in accordance with applicable law and International Standards on Auditing (UK and Ireland). Those standards require us to comply with the Financial Reporting Council's (FRC's) Ethical Standards for Auditors.

## Scope of the audit of the financial statements

A description of the scope of an audit of financial statements is provided on the FRC's website at [www.frc.org.uk/auditscopeukprivate](http://www.frc.org.uk/auditscopeukprivate).

## Opinion on financial statements

In our opinion:

- the financial statements give a true and fair view of the state of the group's and the parent company's affairs as at 31 December 2016 and of the group's loss for the year then ended;
- the group financial statements have been properly prepared in accordance with IFRSs as adopted by the European Union;
- the parent company's financial statements have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- the financial statements have been prepared in accordance with the requirements of the Companies Act 2006.

## Opinion on other matters prescribed by the Companies Act 2006

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the strategic report and directors' report for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the strategic report and directors' report have been prepared in accordance with applicable legal requirements.

## Matters on which we are required to report by exception

In the light of the knowledge and understanding of the group and the parent company and its environment obtained in the course of the audit, we have not identified material misstatements in the strategic report or the directors' report.

We have nothing to report in respect of the following matters where the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept by the parent company, or returns adequate for our audit have not been received from branches not visited by us; or
- the parent company financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.



**Kim Hayward (senior statutory auditor)**

For and on behalf of

**BDO LLP, statutory auditor**

Southampton  
United Kingdom

16 May 2017

BDO LLP is a limited liability partnership registered in England and Wales (with registered number OC305127).

# Consolidated Statement of Comprehensive Income

for the year ended 31 December 2016

	Notes	Year ended 31 December 2016 £000	Year ended 31 December 2015 £000
Revenue		-	25
Research and development expenditure		<b>(2,418)</b>	(1,355)
Other administrative expenses		<b>(1,024)</b>	(1,279)
Total administrative expenses		<b>(3,442)</b>	(2,634)
Loss from operations	4	<b>(3,442)</b>	(2,609)
Finance income	6	<b>38</b>	50
Loss before tax		<b>(3,404)</b>	(2,559)
Tax	7	<b>587</b>	304
Loss and total comprehensive loss for the period attributable to equity holders of the parent		<b>(2,817)</b>	(2,255)
Loss per ordinary share	8		
Basic and diluted loss per share (pence)		<b>(3.08p)</b>	(2.47p)

# Consolidated Statement of Changes in Equity

for the year ended 31 December 2016

	Share capital £000	Share premium £000	Merger reserve £000	Retained deficit £000	Total £000
Note	18a	18b	18c	18d	
At 1 January 2015	913	25,771	483	(17,731)	9,436
Recognition of share-based payments	-	-	-	166	166
Total comprehensive loss for the year	-	-	-	(2,255)	(2,255)
At 31 December 2015	913	25,771	483	(19,820)	7,347
Issuance of ordinary shares	1	-	-	-	1
Recognition of share-based payments	-	-	-	154	154
Total comprehensive loss for the year	-	-	-	(2,817)	(2,817)
At 31 December 2016	<b>914</b>	<b>25,771</b>	<b>483</b>	<b>(22,483)</b>	<b>4,685</b>

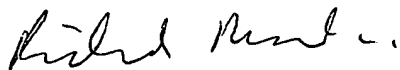
# Consolidated Statement of Financial Position

as at 31 December 2016

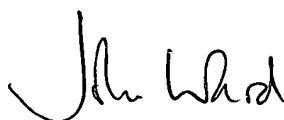
	Notes	31 December 2016 £000	31 December 2015 £000
<b>Assets</b>			
Non-current assets			
Intangible assets	9	62	81
Property, plant and equipment	10	13	17
		75	98
Current assets			
Inventories	11	55	56
Current tax receivable		560	303
Trade and other receivables	12	90	112
Other financial assets – bank deposits	13	1,661	3,722
Cash and cash equivalents	14	3,104	3,992
		5,470	8,185
<b>Total assets</b>		<b>5,545</b>	<b>8,283</b>
<b>Liabilities</b>			
Current liabilities			
Trade and other payables	15	(860)	(936)
<b>Total liabilities</b>		<b>(860)</b>	<b>(936)</b>
<b>Total net assets</b>		<b>4,685</b>	<b>7,347</b>
<b>Equity</b>			
Capital and reserves attributable to equity holders of the parent			
Share capital	17	914	913
Share premium	17	25,771	25,771
Merger reserve	18	483	483
Retained deficit	18	(22,483)	(19,820)
<b>Total equity</b>		<b>4,685</b>	<b>7,347</b>

The financial statements on pages 21 to 34 were approved and authorised for issue by the Board of directors on 16 May 2017 and signed on its behalf by:

**Richard Marsden**  
Chief Executive Officer



**John Ward**  
Finance Director



# Consolidated Statement of Cash Flows

for the year ended 31 December 2016

	Year ended 31 December 2016 £000	Year ended 31 December 2015 £000
Cash flows from operating activities		
Loss before tax	<b>(3,404)</b>	(2,559)
Adjustments for:		
Finance income	<b>(38)</b>	(50)
Depreciation	<b>9</b>	10
Amortisation	<b>19</b>	21
Share-based payment charge	<b>154</b>	166
Cash flows from operations before changes in working capital	<b>(3,260)</b>	(2,412)
Decrease in inventories	<b>1</b>	-
Decrease/(Increase) in trade and other receivables	<b>17</b>	(18)
(Decrease)/Increase in trade and other payables	<b>(76)</b>	441
Cash used in operations	<b>(3,318)</b>	(1,989)
Tax credit received	<b>330</b>	56
Net cash used in operating activities	<b>(2,988)</b>	(1,933)
Cash flows from investing activities		
Interest received	<b>43</b>	58
Purchase of property, plant and equipment	<b>(5)</b>	(10)
Decrease in other financial assets	<b>2,061</b>	3,030
Net cash generated from investing activities	<b>2,099</b>	3,078
Cash flows from financing activities		
Proceeds from issuance of ordinary shares	<b>1</b>	-
Net cash generated from financing activities	<b>1</b>	-
(Decrease)/Increase in cash and cash equivalents	<b>(888)</b>	1,145
Cash and cash equivalents at beginning of the period	<b>3,992</b>	2,847
Cash and cash equivalents at end of the period	<b>3,104</b>	3,992

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# Notes to the Consolidated Financial Statements

for the year ended 31 December 2016

## 1. Accounting policies

### Basis of preparation

The Group financial statements have been prepared in accordance with International Financial Reporting Standards, International Accounting Standards and Interpretations (collectively 'IFRSs') as adopted by the European Union ('Adopted IFRSs') and with those parts of the Companies Act 2006 applicable to companies preparing their financial statements under IFRSs.

The accounting policies adopted are consistent with those of the previous financial year.

The following amendments to standards have been adopted and are effective for the current year:

IAS 1	Presentation of Financial Statements
IAS 27	Equity Method in Separate Financial Statements

The adoption of these pronouncements has not impacted the classification or measurement of the Group's assets and liabilities.

### New standards and interpretations not applied

IASB has issued the following relevant standards and interpretations with an effective date for periods commencing after 1 January 2016:

Standard or interpretation	Title	Effective for periods beginning on or after
IFRS 2	Share-based Payments (Classification and Measurement of Share-based Payment Transactions)	1 January 2018
IFRS 9	Financial Instruments	1 January 2018
IFRS 15	Revenue from Contracts with Customers	1 January 2018
IFRS 16	Leases	1 January 2019
IAS 7	Statement of Cash Flows	1 January 2017
IFRIC 22	Foreign Currency Transactions and Advance Consideration	1 January 2018

The Directors do not anticipate that the adoption of the standards and interpretations will have a material impact on the Group's financial statements in the period of initial application.

The effective dates stated here are those given in the original IASB standards and interpretations. As the Group prepares its financial statements in accordance with IFRS as adopted by the European Union, the application of new standards and interpretations will be subject to their having been endorsed for use in the EU via the EU Endorsement mechanism. In the majority of cases this will result in an effective date consistent with that given in the original standard or interpretation but the need for endorsement restricts the Group's discretion to early adopt standards.

The Group financial statements are presented in Sterling.

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# Notes to the Consolidated Financial Statements

for the year ended 31 December 2016 (continued)

## 1. Accounting policies (continued)

### Basis of consolidation

The consolidated financial statements incorporate the financial statements of the Company and entities controlled by the Company (as detailed in Note 4 to the Parent Company Financial Statements on page 38) made up to the reporting date. Control is achieved when power can be exercised over the investee; there is exposure, or rights, to variable returns from involvement with the investee; and the ability to exercise power over the investee affects returns. All intra-group transactions, balances, income and expenses are eliminated on consolidation. Business combinations that took place prior to 1 July 2006, the date of transition to IFRS, have not been restated as permitted by IFRS 1 "First-time Adoption of International Financial Reporting". The consolidated financial statements have been prepared using the merger method of accounting.

### Revenue

Revenue is stated net of value added tax and is recognised when products or services are supplied. Revenues from licensing agreements, including up-front and milestone payments, are recognised where the milestone has been accomplished, the payments are non-refundable, the Group's obligations to the revenues have been discharged and their collection is reasonably assured, and the transfer of risk has occurred.

### Research and development

All ongoing research expenditure is currently expensed in the period in which it is incurred. Due to the regulatory and other uncertainties inherent in the development of the Group's products, the criteria for development costs to be recognised as an asset, as set out in IAS 38 'Intangible Assets', are not met until a product has been submitted for regulatory approval and it is probable that future economic benefit will flow to the Group. The Group currently has no such qualifying expenditure.

### Employee benefits

All employee benefit costs, notably salaries, holiday pay, bonuses and contributions to Group stakeholder or personal defined contribution pension schemes are charged to the consolidated statement of comprehensive income on an accruals basis.

### Share-based payments

Option awards and awards made under the Group's Long-Term Incentive Plan ('LTIP') granted after 7 November 2002 which had not vested by 1 July 2006 are fair valued at the date of grant and charged to the consolidated statement of comprehensive income over the period from grant to vesting. The Group has fair-valued option and LTIP awards using appropriate share valuation models. At each reporting date, the Group revises its estimate of the number of options that are expected to become exercisable. The credit for any charge is taken to equity.

### Intangible assets

Intangible assets are stated at cost less any accumulated amortisation and any accumulated impairment losses. Patent and licence costs are amortised over ten years on a straight-line basis and the amortisation cost is charged to research and development expenditure in the consolidated statement of comprehensive income.

### Property, plant and equipment

Property, plant and equipment are stated at cost less any accumulated depreciation and any accumulated impairment losses. Depreciation is provided on a straight-line basis at rates calculated to write off the cost of property, plant and equipment, less their estimated residual value over their expected useful lives, which are as follows:

Computer equipment:	3 years
Laboratory and clinical equipment:	5 years

The carrying values of property, plant and equipment are reviewed for impairment if events or changes in circumstances indicate that the carrying value may not be recoverable.

### Inventories

Inventories are stated at the lower of cost and net realisable value.

### Financial instruments

Financial assets and financial liabilities are recognised on the Group's consolidated statement of financial position when the Group becomes a party to the contractual provisions of the instrument.

#### Financial assets

The Group classifies its financial assets as loans and receivables. These assets are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They are initially recognised at fair value plus transaction costs that are directly attributable to their acquisition or issue, and are subsequently carried at amortised cost using the effective interest rate method, less provision for impairment. Impairment provisions are recognised when there is objective evidence (such as significant financial difficulties on the part of the counterparty or default or significant delay in payment) that the Group will be unable to collect all of the amounts due under the terms receivable; the amount of such a provision being the difference between the net carrying amount and the present value of the future expected cash flows associated with the impaired receivable.

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# Notes to the Consolidated Financial Statements

for the year ended 31 December 2016 (continued)

## 1. Accounting policies (continued)

The Group's loans and receivables comprise trade and other receivables, other financial assets and cash and cash equivalents in the consolidated statement of financial position. Other financial assets comprise short-term deposits not meeting the IAS 7 definition of a cash equivalent. Cash and cash equivalents includes cash in hand, deposits held at call with banks and other short-term bank deposits with a maturity period of three months or less from the date of initial deposit.

### Financial liabilities

The Group classifies its financial liabilities as financial liabilities held at amortised cost. Trade payables are initially recognised at fair value and subsequently carried at amortised cost using the effective interest rate method.

### Leased assets

Where substantially all of the risks and rewards incidental to ownership are not transferred to the Group (an 'operating lease'), the total rentals payable under the lease are charged to the consolidated statement of comprehensive income on a straight-line basis over the lease term.

### Taxation

Income tax is recognised or provided at amounts expected to be recovered or to be paid using the tax rates and tax laws that have been enacted or substantively enacted at the reporting date. Research and development tax credits are included as an income tax credit under current assets.

Deferred tax balances are recognised in respect of all temporary differences that have originated but not reversed by the reporting date except for differences arising on:

- investments in subsidiaries where the Group is able to control the timing of the reversal of the difference and it is probable that the difference could not reverse in the foreseeable future; and
- the initial recognition of an asset or liability in a transaction which is not a business combination and at the time of the transaction affects neither accounting or taxable profit.

The amount of the asset or liability is determined using tax rates that have been enacted or substantively enacted by the reporting date and are expected to apply when the deferred tax liabilities/(assets) are settled/(recovered).

Recognition of deferred tax assets is restricted to those instances where it is probable that a taxable profit will be available against which the temporary difference can be utilised. Deferred tax balances are not discounted.

### Foreign currencies

Transactions entered into by Group entities in a currency other than the currency of the primary economic environment in which they operate (their 'functional currency') are recorded at the rates ruling when the transactions occur. Foreign currency monetary assets and liabilities are translated at the rates ruling at the reporting date. Exchange differences arising on the retranslation of unsettled monetary assets and liabilities are recognised immediately in the consolidated statement of comprehensive income.

The functional currency of all entities in the Group is Sterling.

## 2. Critical accounting estimates and judgements

Critical accounting estimates, assumptions and judgements are continually evaluated by management based on available information and experience. As the use of estimates is inherent in financial reporting, actual results could differ from these estimates.

There are no critical accounting estimates and judgements.

## 3. Segmental analysis

The Group operates in one area of activity, namely drug discovery and development. All assets of the Group are located within the United Kingdom and all losses were generated in that territory. The revenue generated in 2015 was generated from a single customer.

# Notes to the Consolidated Financial Statements

for the year ended 31 December 2016 (continued)

## 4. Loss from operations

The loss from operations has been arrived at after charging:

	2016 £000	2015 £000
Depreciation of property, plant and equipment	9	10
Amortisation of intangible assets	19	21
Operating lease rentals payable		
Land and buildings	70	78
Other operating lease rentals	93	93

	2016 £000	2015 £000
The fees of the Group's auditor, BDO LLP, for services provided are analysed below:		
Fees payable to the Company's auditor for the audit of the Group and Company financial statements	17	12
Fees payable to the Company's auditor for other services:		
The audit of the Company's subsidiary, pursuant to legislation	11	11
Audit-related assurance services	5	7
Tax compliance services	11	14
Tax advisory services	3	9
<b>Total fees</b>	<b>47</b>	<b>53</b>

## 5. Employee benefit expense

The average monthly number of employees (including executive directors) was:

	2016	2015
Research	9	9
Administration	3	3
	<b>12</b>	<b>12</b>

	2016 £000	2015 £000
Their aggregate remuneration comprised:		
Wages and salaries	766	909
Social security costs	95	114
Pension costs - defined contribution plans	80	56
<b>Total cash-settled remuneration</b>	<b>941</b>	<b>1,079</b>
Accrued holiday pay	5	2
Share-based payment	154	166
<b>Total remuneration</b>	<b>1,100</b>	<b>1,247</b>

For the purpose of presentation in the Consolidated Statement of Comprehensive Income, remuneration costs of £580,000 (2015: £581,000) are included in research and development expenditure and £520,000 (2015: £666,000) are included in other administrative expenses.

### Key management compensation

The directors represent the key management personnel and details of their remuneration are given in the Directors' Remuneration Report.

In respect of directors' remuneration, the disclosures required by Schedule 5 to the Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008 are included in the detailed disclosures in the audited section of the Remuneration Report on page 18, which are ascribed as forming part of these financial statements.

# Notes to the Consolidated Financial Statements

for the year ended 31 December 2016 (continued)

## 6. Finance income

For the years ended 31 December 2016 and 2015 Finance income represents interest receivable.

## 7. Taxation

### Current tax

	2016 £000	2015 £000
UK corporation tax credit on loss for the year	(560)	(303)
Adjustment in respect of prior years	(27)	(1)
<b>Total income tax credit</b>	<b>(587)</b>	<b>(304)</b>
The tax assessed on the loss on ordinary activities for the year is different to the standard rate of corporation tax in the UK of 20% (2015: 20.25%). The differences are reconciled below:	2016 £000	2015 £000
Loss on ordinary activities before tax	(3,404)	(2,559)
Loss on ordinary activities before tax multiplied by the standard rate of corporation tax in the UK	(681)	(518)
Effects of:		
Tax relief on share option exercises	(2)	-
Expenses not deductible for tax purposes	31	35
Enhanced research & development relief	(471)	(258)
Variable rates on tax losses surrendered for research & development tax credit	212	120
Movement in unrecognised losses and temporary differences	351	318
Overprovision in respect of previous years	(27)	(1)
<b>Total tax credit for the current year</b>	<b>(587)</b>	<b>(304)</b>

### Deferred taxation

Changes in tax rates and factors affecting the future tax charge

Finance Act 2015 included provision for the main rate of corporation tax to reduce from 20% to 19% on 1 April 2017, and to 18% on 1 April 2020. Finance Act 2016 included provision for the rate to reduce further to 17% on 1 April 2020. This will reduce the Company's future tax charge accordingly. This further rate change was substantively enacted on the 15 September 2016. Accordingly, deferred tax balances have been recognised at 17%, being the rate of corporation tax expected to be in force at the time these timing differences are expected to reverse.

	2016 £000	2015 £000
Recognised deferred taxation		
Accelerated capital allowances	1	2
Other temporary differences	(1)	(2)
<b>Charge for the year</b>	<b>-</b>	<b>-</b>

### Unrecognised deferred taxation

At 31 December 2016 the Group has trading losses carried forward which are available for offset against future profits of the Group amounting to £13,341,000 (2015: £11,917,000) and non-trading losses of £1,812,000 (2015: £1,605,000). At 31 December 2016 the Group has an unrecognised deferred tax asset in respect of these losses of £2,576,000 (2015: £2,434,000). The full utilisation of these losses in the foreseeable future is uncertain and no deferred tax asset has therefore been recognised.

In addition to the deferred tax asset on losses, the Group has a potential future tax deduction on share options of £535,000 (2015: £902,000) and a deferred tax asset of £91,000 (2015: £162,000) thereon. The additional tax deduction will crystallise at the point the options are exercised. As the utilisation of this additional deduction against taxable profits in the Group is uncertain, no deferred tax asset has been recognised in respect of the future tax deduction on share options.

# Notes to the Consolidated Financial Statements

for the year ended 31 December 2016 (continued)

## 7. Taxation continued

The movement on the unrecognised deferred tax asset comprises the following:

	2016 £000	2015 £000
Unrecognised deferred tax asset at the start of the year	(2,596)	(2,618)
Movement in year	(71)	22
Unrecognised deferred tax asset at the year-end	(2,667)	(2,596)

## 8. Loss per ordinary share

	2016	2015
Loss attributable to equity holders of the Company (£000)	(2,817)	(2,255)
Weighted average number of ordinary shares in issue	91,351,441	91,316,671
Basic and diluted loss per share (pence)	(3.08)	(2.47)

Basic loss per share is calculated by dividing the loss attributable to ordinary equity holders of the parent company by the weighted average number of ordinary shares in issue during the year.

The loss attributable to ordinary shareholders and weighted average number of ordinary shares for the purpose of calculating the diluted earnings per ordinary share are identical to those used for basic loss per share. This is because the exercise of share options would have the effect of reducing the loss per ordinary share and is therefore antidilutive under the terms of IAS 33.

## 9. Intangible assets

	Patent and licence costs £000
Cost	
At 1 January 2015, 31 December 2015 and 2016	212
Amortisation	
At 1 January 2015	110
Charge for the year	21
At 31 December 2015	131
Charge for the year	19
At 31 December 2016	150
Net book amount	
At 31 December 2016	62
At 31 December 2015	81
At 1 January 2015	102

At 31 December 2016 £62,000 (31 December 2015: £81,000) of the net book amount relates to interferon beta patent costs, which has a remaining average amortisation period of 3 years (31 December 2015: 4 years).

# Notes to the Consolidated Financial Statements

for the year ended 31 December 2016 (continued)

## 10. Property, plant and equipment

	Computer equipment £000	Laboratory and clinical equipment £000	Total £000
Cost			
At 1 January 2015	31	126	157
Additions	5	5	10
At 31 December 2015	36	131	167
Additions	1	4	5
At 31 December 2016	<b>37</b>	<b>135</b>	<b>172</b>
Depreciation			
At 1 January 2015	18	122	140
Charge for the year	8	2	10
At 31 December 2015	26	124	150
Charge for the year	6	3	9
At 31 December 2016	<b>32</b>	<b>127</b>	<b>159</b>
Net book value			
At 31 December 2016	<b>5</b>	<b>8</b>	<b>13</b>
At 31 December 2015	10	7	17
At 1 January 2015	13	4	17

## 11. Inventories

	2016 £000	2015 £000
Raw materials	<b>55</b>	56

Raw materials comprises the Group's BioBank.

## 12. Trade and other receivables

	2016 £000	2015 £000
<i>Amounts receivable within one year:</i>		
Other tax and social security	<b>49</b>	17
Prepayments and accrued income	<b>41</b>	95
	<b>90</b>	112

## 13. Other financial assets - bank deposits

	2016 £000	2015 £000
<i>Amounts receivable within one year:</i>		
Sterling fixed rate deposits of greater than three months' maturity at inception	<b>1,661</b>	3,722

## 14. Cash and cash equivalents

	2016 £000	2015 £000
Cash available on demand	<b>3,104</b>	3,992

# Notes to the Consolidated Financial Statements

for the year ended 31 December 2016 (continued)

## 15. Trade and other payables

	2016 £000	2015 £000
Trade payables	356	281
Social security and other taxes	41	61
Accrued expenses and deferred income	463	594
	<b>860</b>	<b>936</b>

## 16. Financial instruments

An explanation of the Group's objectives, policies and strategies for financial instruments and analysis of the capital structure and capital funding of the Group can be found on page 7 in the Financial Review.

	Notes	2016 Book and fair value £000	2015 Book and fair value £000
<b>Financial assets</b>			
<i>Loans and receivables</i>			
Trade and other receivables	(i)	4	11
Other financial assets (less than one year)		1,661	3,722
Cash and cash equivalents (less than one year)		3,104	3,992
<b>Total</b>		<b>4,769</b>	<b>7,725</b>
<b>Financial liabilities</b>			
<i>Other financial liabilities</i>			
Trade and other payables (less than one year)	(ii)	809	866

- (i) Trade and other receivables shown above excludes amounts due in respect of prepayments and other taxes, which are not a contractual obligation to receive cash, amounting to £86,000 (2015: £101,000).
- (ii) Trade and other payables shown above excludes amounts due in respect of social security and other taxes and deferred income, which are not a contractual obligation to pay cash, amounting to £51,000 (2015: £70,000).

The objective of holding financial instruments is to have access to finance for the Group's operations and to manage related risks. The main risks arising from holding these instruments are interest rate risk, liquidity risk, and credit risk.

### Interest rate risk

Interest rate risk profile of financial assets, excluding short-term debtors:

	2016 Floating rate financial assets £000	2015 Floating rate financial assets £000
Australian Dollar	15	45
Canadian Dollar	1	-
Euro	33	72
Sterling	4,677	7,556
US Dollar	39	41
	<b>4,765</b>	<b>7,714</b>

Short-term deposits are placed with banks for periods of up to twelve months and are categorised as floating rate financial assets. Contracts in place at 31 December 2016 had a weighted average period to maturity of 45 days and a weighted average annualised rate of interest of 0.85% (2015: 38 days, 0.70%).

# Notes to the Consolidated Financial Statements

for the year ended 31 December 2016 (continued)

## 16. Financial instruments (continued)

### Sensitivity analysis

It is estimated that an increase of quarter of one percentage point in interest rates would have decreased the Group's loss before taxation by approximately £15,000 (2015: £22,000).

### Liquidity risk

The Group's policy is to maintain adequate cash resources to meet liabilities as they fall due. All Group payable balances as at 31 December 2016 and 31 December 2015 fall due for payment within one year. Cash balances are placed on deposit for varying periods with reputable banking institutions to ensure there is limited risk of capital loss. The Group does not maintain an overdraft facility.

### Credit risk

The Group's credit risk is attributable to its banking deposits. The Group places its deposits with reputable financial institutions to minimise credit risk.

## 17. Share capital and share premium

	Notes	Number of shares	Ordinary shares of 1p each £000	Share premium £000	Total £000
At 1 January 2015 and 31 December 2015		91,316,671	913	25,771	26,684
Issuance of ordinary shares	(i)	45,941	1	-	1
At 31 December 2016		<b>91,362,612</b>	<b>914</b>	<b>25,771</b>	<b>26,685</b>

(i) 45,941 ordinary shares of 1p were issued on 30 March 2016 at par following the exercise of share options under the Company's long term incentive plan (LTIP).

At the Company's 2015 Annual General Meeting held on 22 June 2015 shareholders passed a special resolution removing the restriction on the Company's share capital and amending the articles of association of the Company so that the number of shares the Company can allot and issue became unlimited.

All issued shares are fully paid.

### Options

At 31 December 2016 there were options outstanding over 5,629,647 un-issued ordinary shares, equivalent to 6.2% of the issued share capital, as follows:

Date of grant	Number of shares	Exercise price	Earliest exercise date	Latest exercise date
Approved EMI scheme				
29 October 2007	17,792	61.5p	29 October 2010	28 October 2017
Other schemes				
7 September 2009 (LTIP)	705,000	1p	7 September 2012	6 September 2019
7 September 2009 (QNEOS)	250,000	20p	7 September 2012	6 September 2019
28 June 2010 (QNEOS)	212,765	23.5p	28 June 2013	27 June 2020
8 September 2010 (LTIP)	471,334	1p	8 September 2013	7 September 2020
21 September 2011 (LTIP)	1,696,609	1p	21 September 2014	20 September 2021
3 November 2014 (LTIP)	1,054,106	1p	3 November 2017	2 November 2024
27 October 2015 (LTIP)	1,222,041	1p	27 October 2018	26 October 2025
	<b>5,629,647</b>			

# Notes to the Consolidated Financial Statements

for the year ended 31 December 2016 (continued)

## 17. Share capital and share premium (continued)

The Group has no legal or constructive obligation to repurchase or settle the options in cash. The movement in the number of share options is set out below:

	Number	2016 Weighted average exercise price	Number	2015 Weighted average exercise price
Outstanding at start of year	<b>6,587,094</b>	<b>3.8p</b>	5,467,644	5.0p
Granted during the year	-	n/a	1,222,041	1.0p
Exercised during the year	<b>(45,941)</b>	<b>1.0p</b>	-	n/a
Lapsed during the year	<b>(911,506)</b>	<b>9.4p</b>	(102,591)	35.1p
Number of outstanding options at year-end	<b>5,629,647</b>	<b>2.9p</b>	6,587,094	3.8p

At 31 December 2016, 3,353,500 share options were capable of being exercised, with exercise prices ranging from 1p to 61.5p (2015: 3,489,556, with exercise prices ranging from 1p to 85.5p). The options outstanding at 31 December 2016 had a weighted average remaining contractual life of 5.7 years (2015: 6.7 years). Vesting conditions are disclosed in the Directors' Remuneration Report.

The Group uses a number of share-based incentive schemes as detailed above and in the Directors' Remuneration Report on pages 16 to 18. The fair value per award granted and the assumptions are as follows:

Date of grant	Type of award	Number of shares	Exercise price (p)	Share price at date of grant (p)	Fair value per option (p)	Award life (years)	Risk free rate	Expected volatility rate	Performance conditions
29 Oct 2007	EMI	17,792	61.5p	61.5p	17.8p	5	4.95%	20%	None
7 Sept 2009	LTIP	705,000	1p	18.5p	7.1p	3	2.09%	30%	Market
7 Sept 2009	QNEOS	250,000	20p	18.5p	4.0p	5	2.67%	30%	Market
28 Jun 2010	QNEOS	212,765	23.5p	23.5p	5.6p	5	2.09%	30%	Market
8 Sept 2010	LTIP	471,334	1p	24.25p	12.1p	3	0.92%	40%	Market
21 Sept 2011	LTIP	1,696,609	1p	22.5p	13.4p	3	0.79%	56%	Market
3 Nov 2014	LTIP	1,054,106	1p	41.5p	22.4p	3	1.11%	46%	Market
27 Oct 2015	LTIP	1,222,041	1p	29p	14.2p	3	0.71%	38%	Market
		<b>5,629,647</b>							

In accordance with IFRS 2, the Company has applied IFRS 2 to all share-based payments granted after 7 November 2002 which had not vested by 1 July 2006. The following comments apply to those options which have been fair valued in accordance with IFRS 2.

- Stochastic valuation methodology was used for the LTIP awards and the QNEOS awards with market performance conditions and Black-Scholes methodology for the other awards.
- Expected dividend yield is nil, consistent with the Directors' view that the Group's model is to generate value through capital growth rather than payment of dividends.
- The risk free rate is equal to the prevailing UK Gilts rate at grant date that most closely matches the expected term of the grant.
- The fair value charge is spread evenly over the expected vesting period.
- The charge for the year ended 31 December 2016 for share-based payment amounted to £154,000 (2015: £166,000).

# Notes to the Consolidated Financial Statements

for the year ended 31 December 2016 (continued)

## 18. Capital and reserves

### 18a Share capital

Share capital represents the nominal value of shares issued.

### 18b Share premium

Share premium represents amounts subscribed for share capital in excess of nominal value less the related costs of share issues.

### 18c Merger reserve

The merger reserve represents the reserve arising on the acquisition of Synairgen Research Limited on 11 October 2004 via a share for share exchange accounted for as a Group reconstruction using merger accounting under UK GAAP.

### 18d Retained deficit

The retained deficit represents cumulative net gains and losses recognised in the consolidated statement of comprehensive income, adjusted for cumulative recognised share-based payments.

## 19. Commitments under operating leases

The total future value of minimum lease payments committed at the balance sheet date under non-cancellable operating leases is due as follows:

	2016 £000	2015 £000
Land, buildings and other		
Not later than one year	95	163
Later than one year and not later than five years	-	95
<b>Total</b>	<b>95</b>	<b>258</b>

## 20. Related party transactions and balances

Details of key management personnel and their compensation are given in note 5 and on page 18 of the Directors' Remuneration Report.

# Parent Company Balance Sheet

as at 31 December 2016

**Company number: 5233429**

	Notes	31 December 2016 £000	31 December 2015 £000
Fixed assets			
Investments	4	<b>22,256</b>	19,510
Current assets			
Debtors	5	<b>102</b>	15
Investments: short-term deposits		<b>1,661</b>	3,722
Cash at bank and in hand		<b>3,063</b>	3,879
		<b>4,826</b>	7,616
Creditors: amounts falling due within one year	6	<b>(41)</b>	(34)
Net current assets		<b>4,785</b>	7,582
Total assets less current liabilities		<b>27,041</b>	27,092
Capital and reserves			
Called up share capital		<b>914</b>	913
Share premium account		<b>25,771</b>	25,771
Retained earnings		<b>356</b>	408
Shareholders' funds		<b>27,041</b>	27,092

As permitted by Section 408 of the Companies Act 2006, the Company's profit and loss account has not been included in these financial statements. The Company's loss for the year ended 31 December 2016 was £206,000 (2015: loss of £268,000).

The financial statements on pages 35 to 38 were approved and authorised for issue by the Board of directors on 16 May 2017 and signed on its behalf by:

**Richard Marsden**  
Chief Executive Officer



**John Ward**  
Finance Director



## Parent Company Statement of Changes in Equity

for the year ended 31 December 2016

	Share capital £000	Share premium account £000	Retained earnings £000	Shareholders' funds £000
At 1 January 2015	913	25,771	510	27,194
Loss for the year and total comprehensive loss	-	-	(268)	(268)
Share-based payment credit	-	-	166	166
At 31 December 2015	913	25,771	408	27,092
Issuance of ordinary shares	1	-	-	1
Loss for the year and total comprehensive loss	-	-	(206)	(206)
Share-based payment credit	-	-	154	154
At 31 December 2016	<b>914</b>	<b>25,771</b>	<b>356</b>	<b>27,041</b>

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# Notes to the Parent Company Financial Statements

for the year ended 31 December 2016

## 1. Accounting policies

### *Basis of preparation*

The financial statements have been prepared in accordance with Financial Reporting Standard 100 Application of Financial Reporting Requirements ('FRS 100') and Financial Reporting Standard 101 Reduced Disclosure Framework ('FRS 101').

### *Disclosure exemptions adopted*

In preparing these financial statements the Company has taken advantage of all disclosure exemptions conferred by FRS 101. Therefore these financial statements do not include:

- certain comparative information as otherwise required by EU-endorsed IFRS;
- certain disclosures regarding the Company's capital;
- a statement of cash flows;
- the effect of future accounting standards not yet adopted;
- the disclosure of the remuneration of key management personnel; and
- disclosures of related party transactions with other wholly-owned members of Synairgen plc group of companies.

In addition, and in accordance with FRS 101, further disclosure exemptions have been adopted because equivalent disclosures are included in the Company's consolidated financial statements. These financial statements do not include certain disclosures in respect of:

- share-based payments; or
- financial instruments.

### *Principal accounting policies*

The principal accounting policies adopted in the preparation of the financial statements are set out below. The policies have been consistently applied to all the years presented, unless otherwise stated.

### *Basis of accounting*

The financial statements have been prepared under the historical cost convention. The presentation currency used is sterling and amounts have been presented in round thousands ('£000s').

### **Foreign currency**

The financial statements are presented in UK pounds sterling, which is the Company's functional currency.

Transactions entered into by the Company in a currency other than the currency of the primary economic environment in which it operates (its 'functional currency') are recorded at the rates ruling when the transactions occur. Foreign currency monetary assets and liabilities are translated at the rates ruling at the reporting date. Exchange differences arising on the retranslation of unsettled monetary assets and liabilities are recognised immediately in profit or loss.

### **Investment in subsidiary undertakings**

Investments in subsidiary undertakings where the Company has control are stated at cost less any provision for impairment.

### **Financial instruments**

Financial assets and financial liabilities are recognised on the Company's balance sheet when the Company becomes a party to the contractual provisions of the instrument.

### *Financial assets*

The Company classifies its financial assets as loans and receivables. These assets are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They are initially recognised at fair value plus transaction costs that are directly attributable to their acquisition or issue, and are subsequently carried at amortised cost using the effective interest rate method, less provision for impairment. Impairment provisions are recognised when there is objective evidence (such as significant financial difficulties on the part of the counterparty or default or significant delay in payment) that the Company will be unable to collect all of the amounts due under the terms receivable; the amount of such a provision being the difference between the net carrying amount and the present value of the future expected cash flows associated with the impaired receivable.

# Notes to the Parent Company Financial Statements

for the year ended 31 December 2016 (continued)

## 1. Accounting policies (continued)

The Company's loans and receivables comprise debtors, investments: short-term deposits and cash and cash equivalents in the balance sheet. Other financial assets comprise short-term deposits not meeting the definition of a cash equivalent. Cash and cash equivalents includes cash in hand, deposits held at call with banks and other short-term bank deposits with a maturity period of three months or less from the date of initial deposit.

### *Financial liabilities*

The Company classifies its financial liabilities as financial liabilities held at amortised cost. Trade creditors are initially recognised at fair value and subsequently carried at amortised cost using the effective interest rate method.

### **Share-based payments**

When the Company grants options over equity instruments directly to the employees of a subsidiary undertaking, the effect of the share-based payment is capitalised as part of the investment in the subsidiary as a capital contribution, with a corresponding increase in equity.

### **Taxation**

The charge for taxation is based on the loss for the period and takes into account taxation deferred.

Current tax is measured at amounts expected to be paid using the tax rates and laws that have been enacted or substantively enacted by the balance sheet date. Deferred tax balances are recognised in respect of all timing differences that have originated but not reversed by the balance sheet date, except that the recognition of deferred tax assets is limited to the extent that the Company anticipates making sufficient taxable profits in the future to absorb the reversal of the underlying timing differences.

Deferred tax balances are not discounted.

### **Share capital**

The Group's ordinary shares are classified as equity instruments. Financial instruments issued by the Company are classified as equity only to the extent that they do not meet the definition of a financial liability or financial asset.

## 2. Critical accounting estimates and judgements

Critical accounting estimates, assumptions and judgements are continually evaluated by management based on available information and experience. As the use of estimates is inherent in financial reporting, actual results could differ from these estimates.

The Company holds a significant investment in its subsidiary, Synairgen Research Limited, of £22.3m (2015: £19.5m). In assessing the carrying value of this asset for impairment, the directors must exercise judgement in estimating its recoverable amount. The key judgements and sources of estimation relate to the methodology and discount rate applied, along with assumptions around the probability-adjusted future cash flows included in the model.

## 3. Profit and loss account

The only employees of the Company during 2016 and 2015 were the three executive directors. Their aggregate remuneration, which is borne by the Company's subsidiary undertaking, comprised:

	2016 £000	2015 £000
Wages and salaries	450	630
Social security costs	59	86
Pension costs – defined contribution plans	47	41
Total cash-settles remuneration	556	757
Accrued holiday pay	5	2
Share-based payment	121	137
Total Remuneration	682	896

In respect of directors' remuneration, the disclosures required by Schedule 5 to the Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008 are included in the detailed disclosures in the audited section of the Directors' Remuneration Report on page 18, which are ascribed as forming part of these financial statements.

Auditor's remuneration is disclosed in note 4 to the Group accounts on page 27.

# Notes to the Parent Company Financial Statements

for the year ended 31 December 2016 (continued)

## 4. Investments

	Investment in subsidiary undertaking £000	Loan to subsidiary undertaking £000	Capital contribution £000	Total £000
At 1 January 2016	140	17,924	1,446	19,510
Additions	-	2,592	154	2,746
At 31 December 2016	<b>140</b>	<b>20,516</b>	<b>1,600</b>	<b>22,256</b>

At 31 December 2016, the Company had an investment in the following subsidiary undertaking:

Name of company	Registered address	Proportion of voting rights and ordinary share capital held	Nature of business
Synairgen Research Limited	Mailpoint 810, Level F, South Block, Southampton General Hospital, Tremona Road, Southampton SO16 6YD	100%	Drug discovery and development

## 5. Debtors

	2016 £000	2015 £000
Other tax and social security	2	2
Prepayments and accrued income	100	13
	<b>102</b>	<b>15</b>

All amounts fall due for payment within one year.

## 6. Creditors: amounts falling due within one year

	2016 £000	2015 £000
Trade creditors	5	4
Accruals and deferred income	36	30
	<b>41</b>	<b>34</b>

## 7. Share capital and share premium

Details of the Company's share capital, share premium, share option schemes and LTIP can be found in note 17 to the Group accounts on pages 32 and 33.

# Corporate Directory

## Company number

5233429

## Directors

Executive: Richard Marsden,  
Dr Phillip Monk, John Ward

Non-executive: Simon Shaw (Chairman),  
Iain Buchanan, Dr Bruce Campbell,  
Paul Clegg, Prof. Stephen Holgate CBE

## Secretary

John Ward

## Head office and Registered office

Mailpoint 210, Level F, South Block,  
Southampton General Hospital,  
Tremona Road, Southampton SO16 6YD  
Telephone and fax: +44 (0) 2380 512 800

## Website

[www.synairgen.com](http://www.synairgen.com)

## E-mail

[info@synairgen.com](mailto:info@synairgen.com)

## Advisers

### Independent auditor

**BDO LLP**

Arcadia House, Maritime Walk,  
Ocean Village, Southampton SO14 3TL

### Bankers

**HSBC Bank plc**

165 High Street, Southampton SO14 2NZ

### Financial public relations

**Consilium Strategic Communications**

41 Lothbury, London EC2R 7HG

### Nominated adviser and broker

**FinnCap Limited**

60 New Broad Street, London EC2M 1JJ

### Registrars

**Capita Asset Services**

The Registry, 34 Beckenham Road,  
Beckenham, Kent BR3 4TU

### Solicitors

**Fladgate LLP**

16 Great Queen Street, London WC2B 5DG

# Glossary

## Acute

An acute disease is a disease with a rapid onset and/or a short course

## Adenovirus

A virus that can cause respiratory disease (e.g. the common cold), conjunctivitis and gastroenteritis

## Airways (or bronchial tubes)

The tubes that carry air in and out of the lungs

## Allergen

A usually harmless substance capable of triggering a response that starts in the immune system and results in an allergic reaction

## Antibiotic

A drug that inhibits bacterial growth or kills bacteria

## Antiviral

Any substance that can either destroy viruses or suppress their growth

## Apoptosis

A naturally-occurring form of programmed cell death

## Assay

A laboratory test to determine parameters such as the strength of a solution, the proportion of a compound in a mixture, the potency of a drug or the purity of a preparation

## Asthma

A disorder in which the airways become episodically narrowed, leading to wheeze, shortness of breath, cough and chest tightness

## AZD-9412

Inhaled interferon beta formulation

## BioBank

A collection of samples from clinically-characterised volunteers, comprising blood, induced sputum, bronchial biopsies and epithelial cells. These samples are used to develop the complex *in vitro* human disease models

## Biomarker

A biochemical feature or facet that can be used to measure the progress of disease or the effects of treatment

## British Thoracic Society (BTS) Step classification system

A stepwise treatment regime (from steps 1 to 5, with 5 being the most severe) for treating asthma in Britain aiming to achieve optimum control without excessive medication

## Broad spectrum antibiotic

An antibiotic that acts against a wide range of disease-causing bacteria

## Bronchodilators

Medicines which relax the muscles around the airways, helping the airways to open up, so making it easier to breathe. There are several types of bronchodilators, of which short-acting beta-agonist drugs are the most commonly used

## Bronchospasm

A sudden contraction of airway smooth muscle resulting in a narrowing of the airways

## Candidate

A candidate drug is a compound (e.g. small molecule, antibody, etc.) with strong therapeutic potential and whose activity and specificity have been optimised

## CellScale MicroSquisher

A machine for measuring the stiffness of tissue

## Chronic bronchitis

An inflammation of the airways accompanied by coughing and production of phlegm. The symptoms are present for at least three months in each of two consecutive years. See COPD

## Chronic disease

A persistent or long-lasting condition

## Clinical Trial Authorisation or CTA

An authorisation from the MHRA (see below) to conduct a clinical trial

## Collagen

The main structural protein found in skin and other connective tissues

**COPD**

Chronic Obstructive Pulmonary Disease covers two conditions: chronic bronchitis and emphysema. COPD usually results from long-term exposure of irritants to the lungs, of which the most prevalent is tobacco smoke. Unlike asthma, where airflow obstruction varies, in COPD airflow obstruction is usually irreversible

**Coronavirus**

A virus that can cause respiratory disease such as the common cold or SARS (depending on the type of coronavirus) and gastroenteritis

**Cross-link**

A chemical bond that acts like a glue, holding collagen fibres together. Lysyl oxidase (LOX) enzymes catalyse this process

**DNA**

Nucleic acid that carries genetic information in the cell

**Emphysema**

A destructive process involving the air spaces (alveoli) of the lungs, which leads to over-inflation of the lung and, when sufficiently advanced, causes breathlessness and lack of oxygenation of blood. See COPD

**Eosinophil**

A type of white blood cell that has a role in allergy and asthma

**Epithelium**

In the lung, the epithelium is a thin layer of cells which lines airway tubes in order to protect and regulate the tissue underneath

**Exacerbation**

A rapid deterioration of a chronic disease that makes the symptoms worse

**Fibroblast**

A fibroblast is a type of cell that synthesizes the extracellular matrix and collagen, the structural framework for animal tissues, and plays a critical role in wound healing

**Fibroblastic focus**

A hallmark of IPF lung tissue characterised by dense collections of fibroblasts (the cells that secrete scar tissue)

**Fibroblastic focus model**

A laboratory model which uses cells from IPF patients that replicates the fibrotic lung

**Fibrosis**

The thickening and scarring of connective tissue, usually as a result of injury

**Gene**

A hereditary unit consisting of a sequence of DNA that determines a particular characteristic of a living organism

**Idiopathic Pulmonary Fibrosis (IPF)**

A disease in which tissue deep in the lungs becomes thick and stiff, or scarred, over time by unknown cause. The formation of scar tissue is called fibrosis. It usually affects middle-aged and older people

**INEXAS**

AstraZeneca's Phase IIa study entitled 'A Study in Asthma Patients to Evaluate Efficacy, Safety and Tolerability of 14 Days Once Daily Inhaled Interferon Beta-1a After the Onset of Symptoms of an Upper Respiratory Tract Infection'

**Interferon beta (IFN-β)**

Interferon beta is a natural protein found in the body which helps to regulate the immune system and fight off viruses. IFN-β is currently marketed by a number of companies as an injectable therapy for the treatment of multiple sclerosis

**Influenza**

A contagious viral infection of the respiratory tract, leading to fever, headaches, sore throat, congestion of the nose and body aches

**In vitro**

Carried out in the laboratory, e.g. in a test tube or culture plate

**In vitro model (complex)**

A research model which contains more than one cell type and allows the study of interactions between different cell types and 'test' agents relevant to the disease or a therapy

**Long acting beta agonist**

An asthma drug that acts to relax (open) the airways for 12 or more hours

**Lower airway**

The airway tubes in the lung running from the throat down, ending in the air spaces (alveoli) where gas exchange occurs

**Lysyl oxidase (LOX)**

An enzyme responsible for the maintenance of collagen and elastin in tissues

**Lysyl oxidase-like protein 2 (LOXL2), 3 (LOXL3), 4 (LOXL4)**

Each is a member of a family of enzymes which catalyses cross-linking of collagen and elastin

**Macrophages**

Phagocytic (i.e. cells that can engulf other cells and cell components) white blood cells involved in cellular clearance and inflammation

**MHRA**

The Medicines and Healthcare Products Regulatory Agency; a UK government body tasked with ensuring that medicines and medical devices work and are safe

**Morbidity**

Incidence or prevalence of a disease

**Mucus**

A gelatinous substance normally produced by the airway cells to protect and hydrate the airway surface from harmful agents

**Multiple sclerosis (MS)**

A disease affecting nerves in the brain and spinal cord, causing problems with muscle movement, balance and vision

**Non-alcoholic steatohepatitis (NASH)**

A form of chronic liver disease in adults and children

**Pandemic influenza**

An influenza pandemic occurs when a new influenza virus appears against which the human population has no immunity, resulting in epidemics worldwide with enormous number of deaths and illness

**Parainfluenza**

A virus that can cause the common cold. Parainfluenza is also responsible for 75% of croup cases in children

**Patent Cooperation Treaty or PCT**

A system by which a patent application can be filed in many different countries at once. A single international application is filed initially at a receiving office. After a search and publication, the application may be converted to a series of national applications in different countries

**Pathway**

A signalling pathway is a group of molecules that work together in a cell to control one or more cell functions

**Peak expiratory flow**

A lung function test that measures a person's ability to breathe out air

**Personalised/P4/stratified**

The customisation of healthcare to the individual patient

**Phase I Clinical Trial**

A study conducted in volunteers to determine the biological effects of a drug, especially safety and tolerability

**Phase II Clinical Trial**

A study in patients with the aim of making a preliminary determination of the efficacy of a drug to provide proof of concept and/or to study drug dose ranges

# Glossary (continued)

**Phase IIa Clinical Trial**

Used to describe a Phase II clinical trial evaluating efficacy, adverse effects and safety risks

**Phase IIb Clinical Trial**

Used to describe a subsequent Phase II clinical trial that also evaluates dosage tolerance and optimal dosage frequency in a larger number of patients than enrolled in a Phase IIa trial

**Phase III Clinical Trial**

A full scale clinical trial to determine drug efficacy and safety prior to seeking marketing approval

**Phlegm**

See Sputum

**Placebo**

An inactive substance or preparation used as a control/comparator (in a clinical trial for example) to determine the effectiveness of a medicinal drug

**Pre-candidate**

A chemical compound that has pharmacological or biological activity likely to be therapeutically useful but which has not yet met all the criteria that are required to be a candidate drug

**Pre-clinical**

A stage of drug development preceding human clinical trials

**Primary endpoint**

The most important measure (endpoint) assessed in a clinical trial

**Prognostic biomarker**

A biomarker that can predict the future course of a disease or response to a therapy

**Prophylaxis**

A measure taken for the prevention of a disease or condition

**Protein**

Large molecules made of smaller biological units known as 'amino acids'. Proteins are responsible for the majority of the function and much of the structure of living things, including humans

**Pulmonary**

Relating to, functioning like, or associated with the lungs

**Rhinovirus**

Rhinoviruses are the most common viral infective agents in humans. The most well-known disease caused by rhinoviruses is the common cold

**RNA**

Nucleic acid that is involved in protein synthesis and transmission of genetic information

**Respiratory syncytial virus (RSV)**

RSV can cause both mild respiratory illness (e.g. the common cold) and serious respiratory tract infections (such as bronchiolitis and pneumonia). More severe infections can occur in the very young, the very old and those with weakened immune systems

**Safety study**

See Phase I Clinical Trial

**Seasonal influenza**

Seasonal influenza is a yearly outbreak of influenza infection, caused by influenza virus. The seasonal influenza is somewhat different every year, as influenza viruses are always changing

**Secondary/exploratory endpoint**

The second most important (or additional) measure (or endpoint) assessed in a clinical trial

**Second harmonic generation imaging**

A microscopic technique for generating images of collagen, the major constituent of scar tissue

**Severe asthma**

Asthma which requires treatment with high dose inhaled corticosteroids plus a second controller (and/or oral corticosteroids) to prevent it from becoming 'uncontrolled' or which remains 'uncontrolled' despite this therapy

**SG005**

A randomised, double-blinded, placebo-controlled Phase II study, comparing the efficacy and safety of inhaled IFN- $\beta$  to placebo administered to asthmatic subjects after the onset of a respiratory viral infection for the prevention or attenuation of asthma symptoms caused by respiratory viruses

**Sputum**

The thick mucus which is coughed up by a person. Sputum contains cells and soluble substances secreted into the airways (bronchi), some of which can mediate disease if present in amounts different to normal. Sputum is also commonly called phlegm

**Steroids**

A group of chemicals that is produced naturally in the body by the adrenal gland. In asthma, steroids are given by inhalation or by mouth to reduce the inflammation of the airways

**Systemic absorption**

The fraction of drug that reaches the systemic circulation

**TGF- $\beta$** 

A secreted protein that affects cell growth, proliferation and differentiation, which is a particularly important driver in fibrosis

**TGF- $\beta$  induced pulmonary fibrosis model**

A pre-clinical model in which TGF- $\beta$  overexpression in the lungs using a non-replicating adenoviral vector (which delivers genetic material) causes a progressive lung fibrosis

**Toxicology**

The study of the nature and mechanisms of deleterious effects of chemicals on humans, animals and other biological systems

**Translational medicine**

The process of converting a scientific discovery into something that aims to improve the health of individuals and the community

**Type I IFNs**

A classification of interferon that includes IFN- $\beta$

**Upper airway**

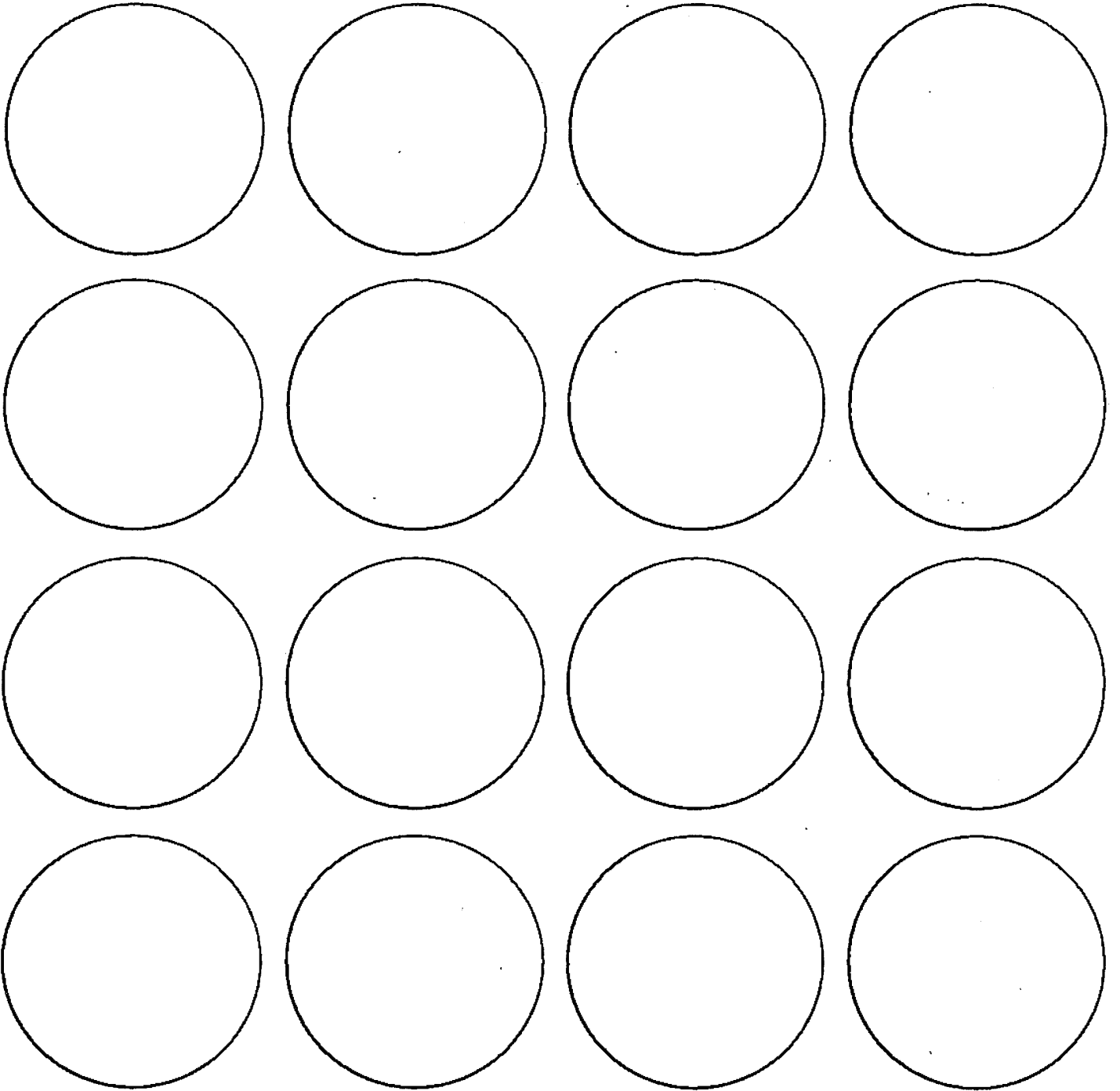
The tubes in the nose and neck which conduct air into the lung

**Virus**

A virus is a non-living small particle that infects cells in biological organisms. Viruses can reproduce only by invading and controlling other cells as they lack the cellular machinery for self-reproduction

**Wheeze**

A whistling sound made by a person who has airflow obstruction when breathing



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