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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 6-K

Report of Foreign Private Issuer  
Pursuant to Rule 13a-16 or 15d-16  
of the Securities Exchange Act of 1934

For the month of November 2021  
Commission File Number: 001-37643

**PURPLE BIOTECH LTD.**  
(Translation of registrant's name into English)

**4 Oppenheimer Street, Science Park, Rehovot 7670104, Israel**  
(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F.

Form 20-F ☒ Form 40-F ☐

Indicate by check mark if the Registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): ☐

Indicate by check mark if the Registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): ☐

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The Company is announcing that it has made available an updated Company Presentation on its website. A copy of the updated Company Presentation is attached hereto as Exhibit 99.1 and may be viewed at the Company's website at [www.purple-biotech.com](http://www.purple-biotech.com).

## Exhibit

99.1 [Company Presentation](#)

### Incorporation by Reference

This Form 6-K, including all exhibits attached hereto, is hereby incorporated by reference into each of the Registrant's Registration Statement on [Form S-8](#) filed with the Securities and Exchange Commission on May 20, 2016 (Registration file number 333-211478), the Registrant's Registration Statement on [Form S-8](#) filed with the Securities and Exchange Commission on June 6, 2017 (Registration file number 333-218538), the Registrant's Registration Statement on [Form F-3](#), as amended, originally filed with the Securities and Exchange Commission on July 16, 2018 (Registration file number 333-226195), the Registrant's Registration Statement on [Form S-8](#) filed with the Securities and Exchange Commission on March 28, 2019 (Registration file number 333-230584), the Registrant's Registration Statement on [Form F-3](#) filed with the Securities and Exchange Commission on September 16, 2019 (Registration file number 333-233795), the Registrant's Registration Statement on [Form F-3](#) filed with the Securities and Exchange Commission on December 2, 2019 (Registration file number 333-235327), the Registrant's Registration Statement on [Form F-3](#) filed with the Securities and Exchange Commission on May 13, 2020 (Registration file number 333- 238229), the Registrant's Registration Statement on [Form S-8](#) filed with the Securities and Exchange Commission on May 28, 2020 (Registration file number 333-238481) and each of the Registrant's Registration Statements on Form F-3 filed with the Securities and Exchange Commission on July 10, 2020 (Registration file numbers [333-239807](#) and [333-233793](#)), to be a part thereof from the date on which this report is submitted, to the extent not superseded by documents or reports subsequently filed or furnished.

## SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

November 16, 2021

**PURPLE BIOTECH LTD.**

By: /s/ Isaac Israel  
Isaac Israel  
Chief Executive Officer



# CORPORATE PRESENTATION

NASDAQ/TASE: PPBT  
November 2021

# Forward-looking Statements and Safe Harbor

Certain statements in this presentation that are forward-looking and not statements of historical fact are forward-looking statements within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements include, but are not limited to, statements that are not statements of historical fact, and may be identified by words such as "believe", "expect", "intend", "plan", "may", "should", "could", "might", "seek", "target", "will", "project", "forecast", "continue" or "anticipate" or their negatives or variations of these words or other comparable words. You should not place undue reliance on these forward-looking statements, which are not guarantees of future performance. Forward-looking statements reflect our current views, expectations, beliefs or intentions with respect to future events, and are subject to a number of assumptions, involve known and unknown risks, many of which are beyond our control, as well as uncertainties and other factors that may cause our actual results, performance or achievements to be significantly different from any future results, performance or achievements expressed or implied by the forward-looking statements. Important factors that could cause or contribute to such differences include, among others, risks relating to: the plans, strategies and objectives of management for future operations; product development for NT219 and CM24; the process by which early stage therapeutic candidates such as NT219 and CM24 could potentially lead to an approved drug product is long and subject to highly significant risks, particularly with respect to a joint development collaboration; the fact that drug development and commercialization involves a lengthy and expensive process with uncertain outcomes; our ability to successfully develop and commercialize our pharmaceutical products; the expense, length, progress and results of any clinical trials; the lack of sufficient funding to finance the clinical trials; the impact of any changes in regulation and legislation that could affect the pharmaceutical industry; the difficulty in receiving the regulatory approvals necessary in order to commercialize our products; the difficulty of predicting actions of the U.S. Food and Drug Administration or any other applicable regulator of pharmaceutical products; the regulatory environment and changes in the health policies and regimes in the countries in which we operate; the uncertainty surrounding the actual market reception to our pharmaceutical products once cleared for marketing in a particular market; the introduction of competing products; patents attained by competitors; dependence on the effectiveness of our patents and other protections for innovative products; our ability to obtain, maintain and defend issued patents; the commencement of any patent interference or infringement action against our patents, and our ability to prevail, obtain a favorable decision or recover damages in any such action; and the exposure to litigation, including patent litigation, and/or regulatory actions, and other factors that are discussed in our in our Annual Report on Form 20-F for the year ended December 31, 2020 and in our other filings with the U.S. Securities and Exchange Commission (the "SEC"), including our cautionary discussion of risks and uncertainties under "Risk Factors" in our Registration Statements and Annual Reports. These are factors that we believe could cause our actual results to differ materially from expected results. Other factors besides those we have listed could also adversely affect us. Any forward-looking statement in this presentation speaks only as of the date which it is made. We disclaim any intention or obligation to publicly update or revise any forward-looking statement, or other information contained herein, whether as a result of new information, future events or otherwise, except as required by applicable law. You are advised, however, to consult any additional disclosures we make in our reports to the SEC, which are available on the SEC's website, <http://www.sec.gov>.



# Business Highlights

**CM24 - First-in-class  $\alpha$ -CEACAM1 mAb, validating clinical collaboration with Bristol Myers Squibb**

**NT219 - First-in-class, small molecule, dual inhibitor of IRS 1/2 and STAT3**

## **Strong balance sheet and cash position**

Purple Biotech (NASDAQ/TASE: PPBT)

ADs outstanding: 17.7M

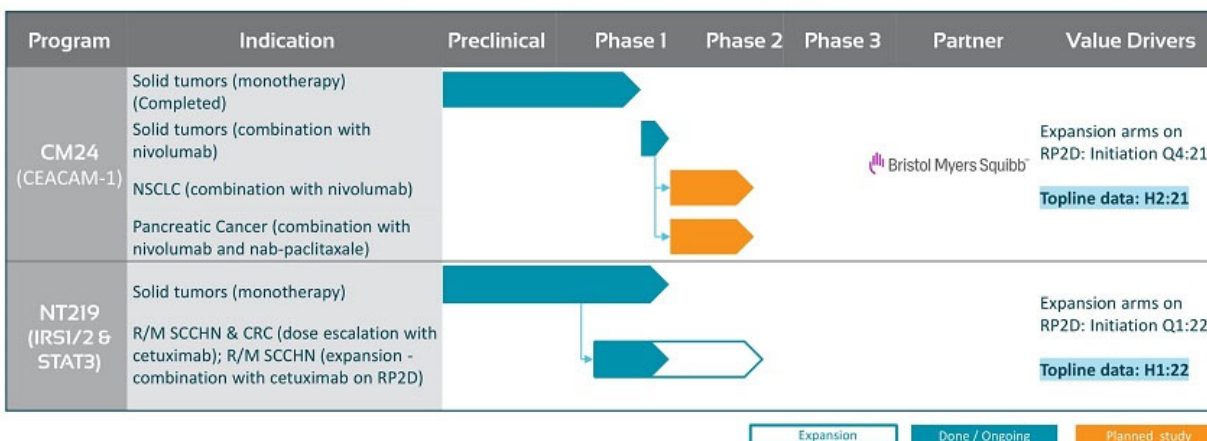
\$50.5M cash as of September 30<sup>th</sup>, 2021

Cash runway into 2024



**Multiple data read-outs expected in the next 12 months**

# Advancing Clinical-stage Novel Oncology Therapies



## Experienced Leadership

AMGEN

Biogen

Roche

NIH NATIONAL  
CANCER  
INSTITUTE

KAMADA



**Isaac Israel**  
Chief Executive Officer  
Former CEO of BeeContact Ltd.  
(TASE:BCNT). NextGen Biomed  
(TASE: NXGN)



**Gil Efron**  
President and Chief Financial  
Officer  
Former Deputy CEO & CFO at Kamada  
(NASDAQ:KMDA)



**Bertrand Liang, MD,  
Ph.D, MBA/AMP, FAAN**  
Chief Medical Officer  
Formerly at Biogen Idec,  
Amgen, NCI



**Eric K. Rowinsky, MD**  
Chairman of the Board  
Former CMO at ImClone, Stemline,  
Board member at Biogen Inc.



**Hadas Reuveni, Ph.D**  
Vice President, R&D  
Formerly at Keryx (NASDAQ:KERX)



**Michael Schickler, Ph.D**  
Head of Clinical & Regulatory Affairs  
Formerly at Hoffmann-La Roche, CEO at  
CureTech





# Advancing First-in-Class Oncology Therapies

CM24 - an  $\alpha$ -CEACAM1 mAb

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# CEACAM1\* Plays a Key Role in Cancer Biology

## 01 | ADHESION

Horst, 2011

Oncogene

"CEACAM1 creates a pro-angiogenic tumor microenvironment that **supports tumor vessel maturation**"

Ferri, 2020

 Journal of Immunology

"Neutrophil extracellular trap-associated CEACAM1 as a putative therapeutic target to **prevent metastatic progression** of colon carcinoma"

## 02 | IMMUNE CELLS/ IMMUNE EXCLUSION

Tsuzuki, 2020



"**Immune-checkpoint molecules** on regulatory T-cells as a potential therapeutic target in head and neck squamous cell cancers"

Tsang, 2020

 Cancer Biorthopics & Radiotherapy

"[Blockade] **enhances natural killer cell cytotoxicity** against tumor cells through blockade of the inhibitory CEACAM1 / CEACAM5 immune checkpoint pathway"


## 03 | IMMUNO- ONCOLOGY

Blumberg, 2015

 nature

"CEACAM1 **regulates TIM-3-mediated tolerance and exhaustion**"

Shively, 2013

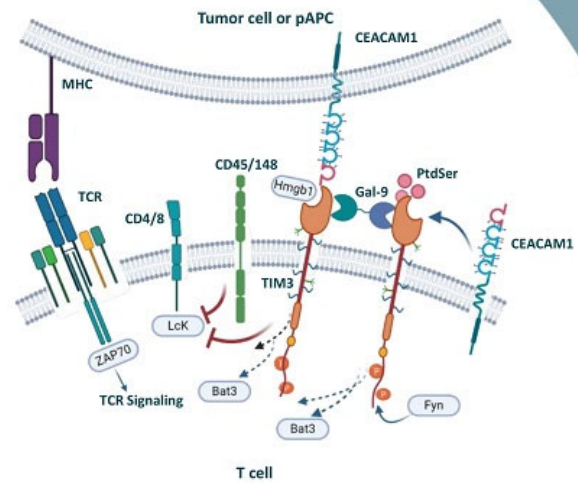
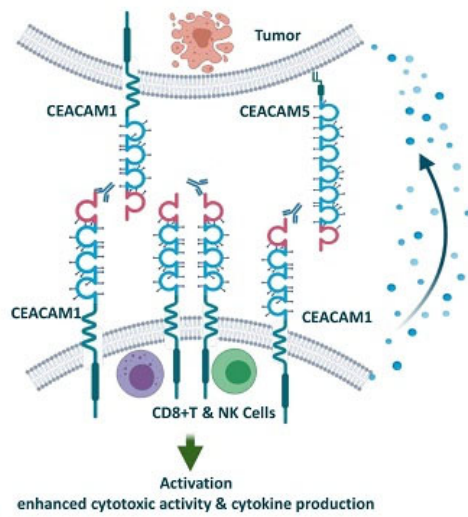
 Experimental Cell Research

"CEACAM1 **regulates Fas-mediated apoptosis** in Jurkat T-cells via its interaction with  $\beta$ -catenin"



\*Carcinoembryonic Antigen Cell Adhesion Molecule

# CM24 MOA | Immuno-oncology

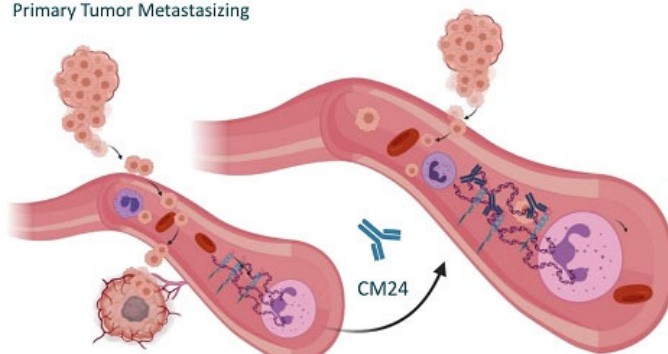


Markel et al, *J Immunol* 2002, 2006; *Immunology*, 2008; *Cancer Immunol Immunother* 2010; Ortenberg et al, *Mol Cancer Ther* 2012; Zhou, 2009; Li, 2013; Huang, 2015; Acharya N, et al. *J Immunotherapy Canc* 8:e911-22, 2020.

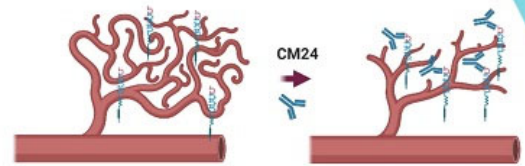
# CM24 MOA | Adhesion

Neutrophil extracellular trap-associated CEACAM1 as a putative therapeutic target to prevent metastatic progression:

Primary Tumor Metastasizing



Metastatic Tumor



CEACAM1 creates a pro-angiogenic tumor microenvironment that supports tumor vessel maturation. CM24 is proposed to attenuate/block tumor growth and metastatic processes.



Rayes RF, et al. Neutrophil Extracellular Trap-Associated CEACAM1 as a Putative Therapeutic Target to Prevent Metastatic Progression of Colon Carcinoma. *J Immunol.* 2020; Gerstel, D. et al. CEACAM1 creates a pro-angiogenic tumor microenvironment that supports tumor vessel maturation. *Oncogene* 30, 4275–4288 (2011)

# Anti-cancer Effect Following Treatment

## Preclinical Data With CM24 + TIL and CM24 + $\alpha$ -PD1

TIL + IgG



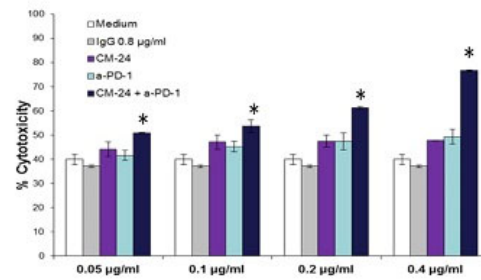
TIL + CM24



Naïve



- Xenograft, lung lesion, Mel 526 (IV)
- Tumor burden was monitored 26 days post last CM24 treatment



Combination index (CI) = 0.15

$$CI = \frac{(D)_1}{(D_x)_1} + \frac{(D)_2}{(D_x)_2} < 1 \rightarrow \text{synergy}$$



Significant benefits as both single agent and in combination with  $\alpha$ -PD-1

# CM24 Phase 1 Monotherapy Trial

UCLA

YALE-NEW HAVEN  
HOSPITAL

- Open-label, multi-dose escalation monotherapy study to assess safety and tolerability
- Heavily pre-treated patients with a median of 4 prior regimens (range 2-8) Overall, treatment was well tolerated
- Most of the responding patients were treated with the highest dose levels of 3mg/kg & 10mg/kg
- PK analysis revealed non-linearity, modeling recommended to continue administration of higher doses to reach saturation

## 27 patients:

Colorectal	11
Melanoma	7
Ovarian	4
Gastric	3
NSCLC	2

\*24 patients evaluated

# pts

0.01mg/kg	1
0.03mg/kg	1
0.1 mg/kg	3
0.3 mg/kg	3
1.0 mg/kg	3
3.0 mg/kg	9
10.0 mg/kg	7



No DLTs up to  
10 mg/kg

No discontinuation of  
study drug due to an AE

No drug related  
mortalities

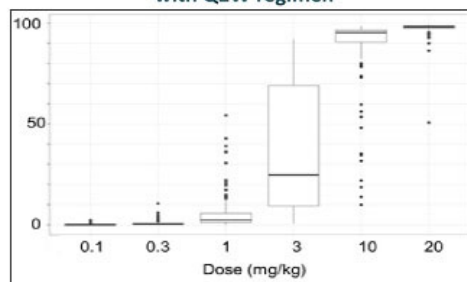
33.3% SD  
(RECIST)

11

# PK/PD Modeling Provides Dosage & Schedule Guidance

- Consistent with observed PK showing high clearance at doses <10 mg/kg, plot shows low TMDD saturation at low doses
- 10 mg/kg has a broad range of saturation, and >10 mg/kg, Q2W dose is needed for saturation across population
- Nivolumab administered Q2W or Q4W, representing good clinical and commercial fit for CM24

Simulated TMDD<sup>1</sup> saturation at Ctrough with Q2W regimen



Phase 1b/2a study will continue escalating the CM24 dose above 10mg/kg q2wk, in combination with nivolumab



<sup>1</sup>Target-mediated drug disposition. <sup>2</sup>OPDIVO® is a registered trademark of Bristol-Myers Squibb. Ctrough is the drug concentration reached by CM24 before the next dose is administered



# Large Market Opportunity in NSCLC & Pancreatic Cancer



- NSCLC accounts for ~200K new cases/year in the US; with a 5-year relative survival rate of 23%<sup>2</sup>
- Immunotherapy is now recommended as first line therapy in all patients with NSCLC and no driver mutations<sup>3</sup>
- 5-year overall survival rates with chemotherapy in 2L is 2.6% and with I/O Opdivo® is 13.4%<sup>4</sup>



- Pancreatic Cancer accounts for ~60K new cases/year in the US; with a 5-year relative survival rate of 10%<sup>2</sup>
- I/O approaches have been limited to patients with high microsatellite instability (MSI-H) or high tumor mutational burden (TMB-H)
- 5-year overall survival rates with chemotherapy in 2L is 3%<sup>2</sup>

## Combining nivolumab with CM24 in a clinical collaboration with



- CEACAM1 expression correlates with poor prognosis in NSCLC and Pancreatic cancer<sup>1</sup>
- Preclinical data support significant synergy
- Receptor saturation with CM24 is better achieved with a Q2W regimen, aligning with the nivolumab regimen



<sup>1</sup> Dangou et al. *Lung Cancer* 2008; 60:426 & Calinescu et al. *Journal of Immunology Research* 2018; 7169081.

<sup>2</sup> American Cancer Society, *Cancer Facts & Figures* 2019, and the ACS website, <https://seer.cancer.gov/statfacts/html/pancreas.html>

<sup>3</sup> Economopoulou P, Mountzios G. The emerging treatment landscape of advanced non-small cell lung cancer. *Ann Transl Med.* 2018;6(8):138. doi:10.21037/atm.2017.11.07

<sup>4</sup> Gettinger S, et al "Five-year outcomes from the randomized, phase III trials CheckMate 017/057: Nivolumab vs docetaxel in previously treated NSCLC" *WCLC* 2019; Abstract OA14.04.



# CM24 Phase 1/2 Combination Study Design (NCT04731467)

## A Phase 1/2 open label multi center study of CM24 in combination with:

- Nivolumab in selected cancer indications (Phase 1) and NSCLC (Phase 2)
- Nivolumab and nab-paclitaxel in pancreatic cancer (Phase 2)

## Primary endpoints:

Phase 1: Evaluate the safety, PK and the MTD/RP2 dose

Phase 2: Evaluate preliminary efficacy in 2nd line NSCLC and pancreatic cancer

Measurement of CEACAM1 based bio-marker.

Exploring further studies in other tumor types as well as monotherapy



2021

### Dose Escalation

Doses: 10, 15, 20mg/kg q2wk  
+ nivolumab (480mg q4w)  
3+3 design  
9 ≤ n ≤ 15

Indications: NSCLC, Pancreatic,  
Ovarian, CRC, Melanoma,  
Papillary Thyroid Carcinoma

2022

### Expansions

CM24 (@RP2 dose) + nivolumab (480mg) q4w  
I/O refractory NSCLC; 2<sup>nd</sup> line  
n=13+14 (Simon 2 Stage Design)

CM24 (@RP2 dose) + nivolumab (480mg) q4w  
+ nab-paclitaxel  
Locally advanced, unresectable pancreatic cancer; 2<sup>nd</sup> line  
n=13+14 (Simon 2 Stage Design)

2023-24

Clinical collaboration with:

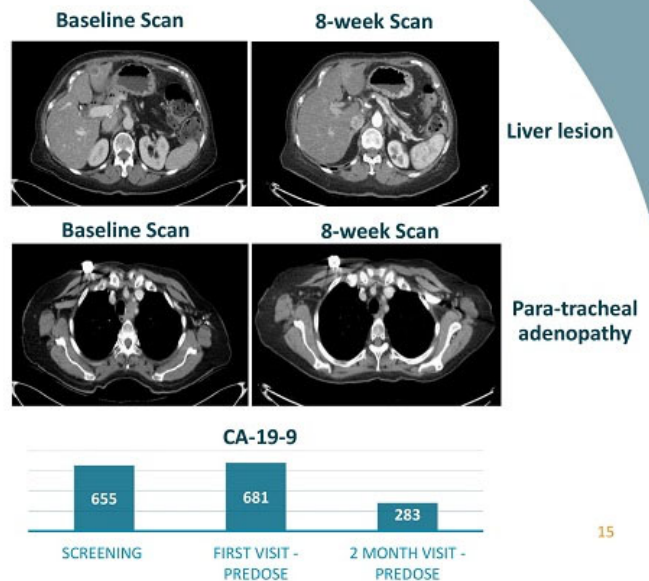
 Bristol Myers Squibb™



# 1<sup>st</sup> Cohort Analysis – SAFETY and RESPONSE

10mg/kg Dose Level in combination with nivolumab

- The administration of CM24 at 10mg/kg q2wks in combination with nivolumab at 480mg q4wks was well tolerated with no SAEs in patients with refractory PDAC
- Three patients were enrolled into the first dose cohort, all with PDAC. Two patients progressed after 1.5 and 2 months of treatment
- The third patient, previously treated with FOLFIRINOX and gemcitabine/nab-paclitaxel, had a germline NF1 VUS, with MSI-S and PDL-1 IHC 2+ and 5% staining
- After initial treatment, the patient had a Partial Response of 40%, with a definite reduction of the para-tracheal adenopathy and liver lesions and 56% reduction in CA19-9 levels





# Advancing First-in-Class Oncology Therapies

**NT219 – A Small Molecule Dual  
Inhibitor of IRS 1/2 and STAT3**

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# NT219 - Dual Inhibitor of IRS1/2 & STAT3

## IRS1/2

- Scaffold proteins, mediating mitogenic, metastatic, angiogenic and anti-apoptotic signals from IGF1R, IR, IL4R and other oncogenes, overexpressed in multiple tumor types
- Regulates major survival pathways such as the PI3K/AKT, MEK/ERK and WNT/ $\beta$ -catenin
- Activated as a feedback response to anti-cancer therapies



## STAT3

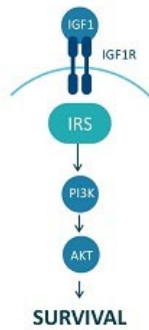
- Well-established transcription factor associated with the tumorigenic phenotype
- Provides a crucial axis to support cell proliferation and survival
- Active in tumor JAK/STAT3 and TGF- $\beta$  resistance mechanisms



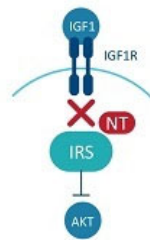
<sup>1</sup>Hadas Reuveni et al., *Cancer Res* 2013;73:4383-4394, 2013 ; <sup>2</sup>Machado-Neto, et al. *Clinics (Sao Paulo, Brazil)* vol. 73, suppl 1 e566s, 21 Oct. 2018, doi:10.6061/clinics/2018/e566s  
<sup>3</sup>Naokazu Iwaki<sup>1,2</sup>, Masayar Ghaffari<sup>1,3</sup>, Hadas Reuveni<sup>4</sup> et al. DOI: 10.1158/1535-7163.MCT-13-0842 Published December 2014; <sup>4</sup>Rampias T, Favicchio R, Stebbing J, Giamas G. 2016 May 19;35(20):2562-4. doi: 10.1038/onc.2015.392. Epub 2015 Oct 19. PMID: 26477311  
<sup>5</sup>Floshner-Albramson et al., *Oncogene*. 2016 May 19;35(20):2675-80. doi: 10.1038/onc.2015.229. Epub 2015 Jun 29. PMID: 26119932; <sup>6</sup>Sanchez-Lopez E., *Oncogene*. 2016 May 19;35(20):2634-44. doi: 10.1038/onc.2015.326. Epub 2015 Sep 14. PMID: 26364612; PMCID: PMC4791217.  
<sup>7</sup>Zhao C, et al. *Trends Pharmacol Sci*. 2016 Jan;37(1):47-61. doi: 10.1016/j.tips.2015.10.001. Epub 2015 Nov 12. PMID: 26576830; <sup>8</sup>Johnson, Daniel E et al. "Targeting the IL-6/JAK/STAT3 signaling axis in cancer." *Nature reviews. Clinical oncology* vol. 15,4 (2018): 234-248. doi:10.1038/nrclinonc.2018.8

# Novel MOA: IRS Degradation By NT219

## Blocking IGF1R-AKT Pathway<sup>1</sup>

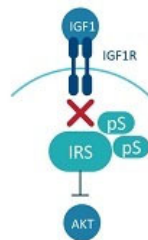


### 1 Binding to IRS



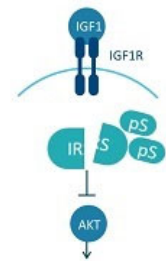
Covalent binding to IRS1/2 leads to the dissociation of IRS1/2 from IGF1R

### 2 Ser-phosphorylation



Serine phosphorylation prevents re-binding of IRS1/2 to the receptor

### 3 Degradation



**APOPTOSIS**

IRS1/2 is degraded by the proteasome



<sup>1</sup>Reuveni et al. Cancer Res 2013

# NT219

## Efficacy as Monotherapy



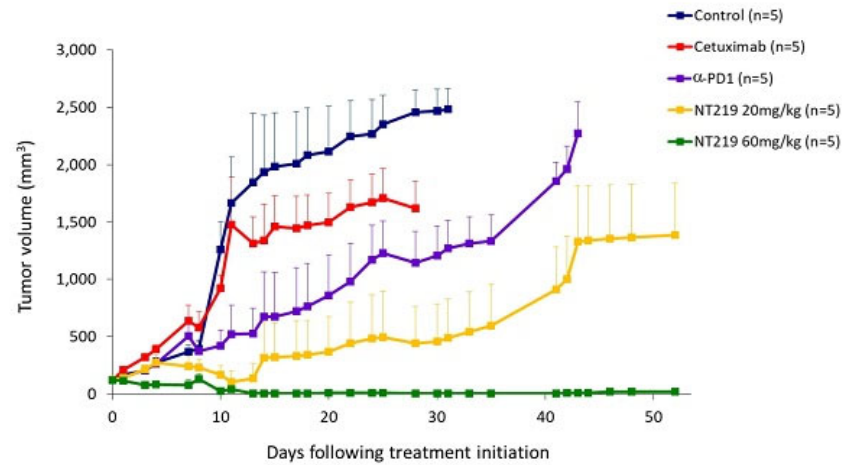
### Animal model

Head & Neck Cancer (SCC-9) NSG™, PBMCs-injected<sup>1</sup>



### Drugs

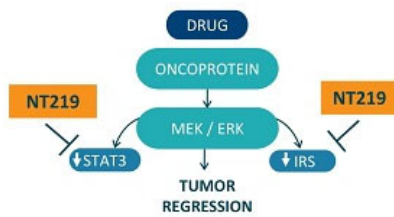
α-PD1  
Cetuximab (Erbix<sup>®</sup>)  
NT219 20mg/kg  
NT219 60mg/kg



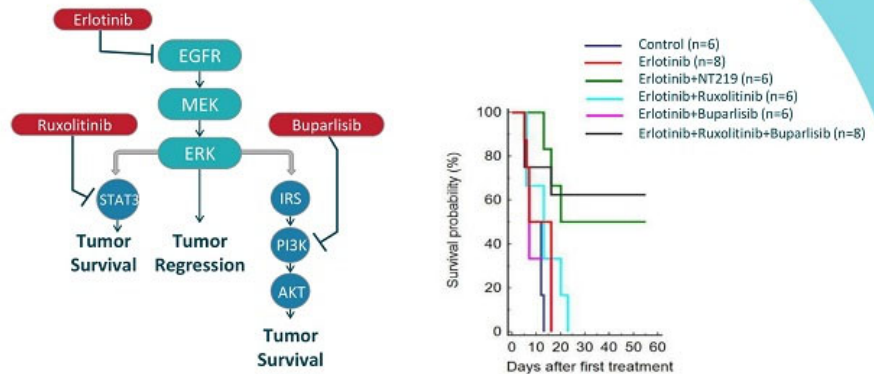
<sup>1</sup> NSG mice were injected SC with SCC-9 cells. PBMCs ( $18 \times 10^6$  cells per mouse) administered 4 weeks prior to first treatment. NT219, α-PD1, and cetuximab were administered IV (NT219) and IP (α-PD1 and cetuximab) twice a week for 4 weeks. Graph reflects relevant data adapted from 2020 Multidisciplinary Head and Neck Cancers Symposium Poster presentation

# STAT3 and IRS are Essential in Therapeutic Resistance

## Blocking survival pathways



## Proof of Concept: PDX model of Head and Neck Cancer



By blocking both STAT3 and IRS pathways, NT219 prevents tumor resistance and re-sensitizes tumors to anti-cancer therapies



# NT219 + Targeted Therapies Established Efficacy in PDX Models



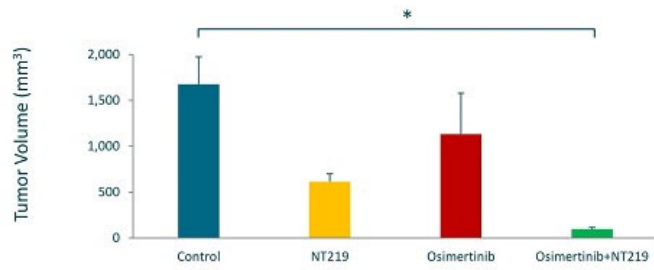
## NSCLC

Exon 19 deletion EGFR and T790M, biopsy of bone marrow metastasis, patient previously progressed on afatinib and osimertinib

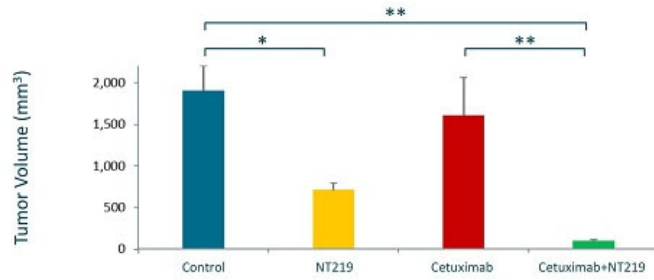


## R/M SCCHN

metastasis, patient previously progressed on chemoradiation, several chemotherapies, and pembrolizumab



Osimertinib 5 mg/kg, NT219 65 mg/kg, mean tumor volume at the end point, 3 mice/group;



Treatments on days 0, 3 and 10, cetuximab - 1mg/mouse, 3 mice/group; PBMCs (1.4M cells/mouse) were injected on day 621

\*\*  $p < 0.01$ , \*  $p < 0.02$  based on one-way ANOVA with post hoc Tukey's HSD test



# NT219 + $\alpha$ -PD1 Re-sensitizes to Refractory $\alpha$ -PD1 Tumors



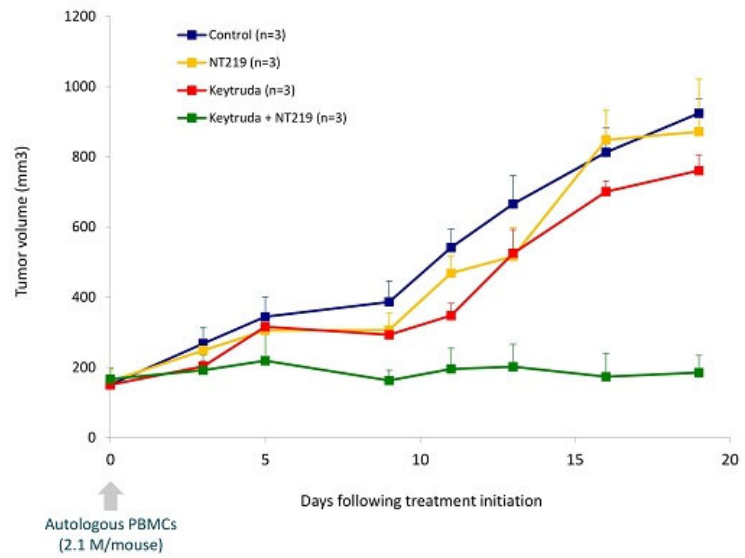
## PDX Model

Humanized PDX of  
Esophagus Cancer (refractory  
to pembrolizumab)



## Drug

Pembrolizumab  
(Keytruda®)



\* Double autologous model - Tumors & PBMCs are from the same patient (#RA235) | Keytruda - 6mg/kg IP, NT219 - 60mg/kg IV

# First Market Opportunity

## Recurrent or Metastatic Squamous Cell Carcinoma of Head and Neck (SCCHN)



### Targeting the unmet medical need

- 1L Standard of care has shifted from chemotherapy towards immuno-oncology + chemotherapy
- < 20% of R/M SCCHN patients respond to  $\alpha$ -PD1s
- 175k new cases/year are expected by 2024

### Rationale for combining Cetuximab + NT219

- EGFR and PD(L)-1 are the only clinically validated targets in SCCHN
- < 15% of R/M SCCHN patients respond to Cetuximab
- Cetuximab inhibits EGFR signaling and promotes ADCC in EGFR expressing tumors
- STAT3 and IRS-to-AKT activation contributes to resistance to cetuximab in SCCHN

1L  
60K pts

$\alpha$ -PD-1 +  
Chemo



2L  
37K pts

Cetuximab



NT219



**NT219 + Cetuximab has the potential to become an attractive 2<sup>nd</sup> line therapy**

Global Data 2018: Head and Neck Squamous Cell Carcinoma: Opportunity Analysis and Forecasts to 2026 ; Internal best current estimates of patient numbers based on external research, 5 major global territories

# NT219 Monotherapy and Combination Phase 1/2 Study Design (NCT04474470)

## Study title

A phase 1/2 study with open-label, dose escalation phase followed by single-arm expansion to assess the safety, tolerability, PK, PD and efficacy of NT219, alone in adults with recurrent or metastatic solid tumors and in combination with Erbitux® (cetuximab) in head and neck cancer

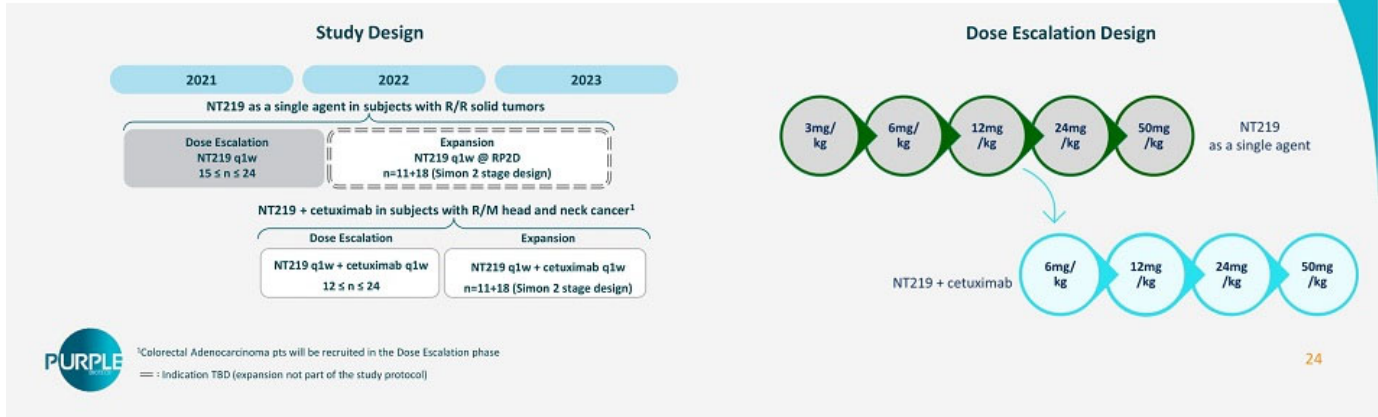
## Endpoints

### Primary endpoints:

Safety, pharmacokinetics and to determine the MTD

### Secondary endpoints:

Obtain preliminary efficacy data



# Interim Analysis – SAFETY and RESPONSE

## 3 mg/kg Dose Level as a Single Agent

- NT219 has been found to be well-tolerated with minimal adverse events
- In a patient with refractory GE junction disease, NT219 administration was associated with a partial response (PR):
  - ✓ Complete remission at the largest target lesion and one non-target central mesenteric lymph node
  - ✓ Stable Disease at the other non-target lesion pre-carinal lymph node



Response Analysis

Cancer Type	Prior Lines of Therapy	Treatment Duration(Weeks)	Best Response*
Pancreatic Cancer	3	8	PD
NT219 3mg/kg	GE Junction Cancer	4	22
			PR
			Target lesion: Absent Non target lesion 1: Absent Non target lesion 2: Stable
Breast Cancer	11	8	PD

\*Interim data

# Business Highlights

**CM24 - First-in-class  $\alpha$ -CEACAM1 mAb, validating clinical collaboration with Bristol Myers Squibb**

**NT219 - First-in-class, small molecule, dual inhibitor of IRS 1/2 and STAT3**

## **Strong balance sheet and cash position**

Purple Biotech (NASDAQ/TASE: PPBT)

ADs outstanding: 17.7M

\$50.5M cash as of September 30<sup>th</sup>, 2021

Cash runway into 2024



**Multiple data read-outs expected in the next 12 months**

26

# We are committed

to providing cancer  
patients with first-in-class  
therapies to **OVERCOME**  
tumor drug resistance,  
**ENHANCE** treatment  
response and **SLOW**  
tumor progression







THANK YOU

Contact Us:  
[ir@purple-biotech.com](mailto:ir@purple-biotech.com)





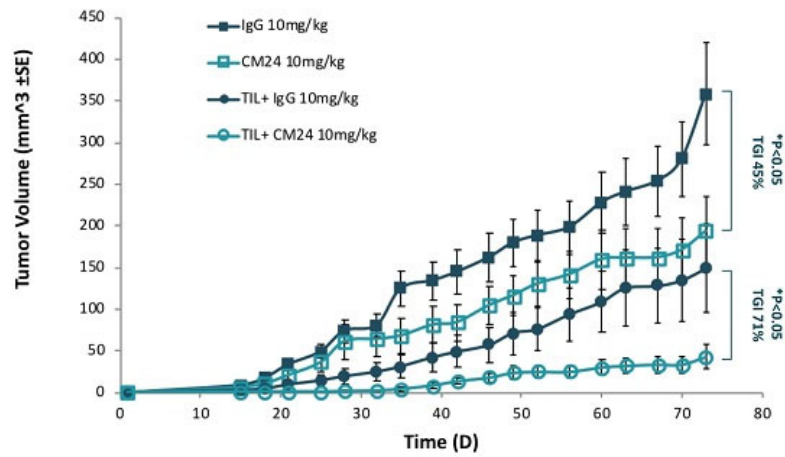
## Appendix A - CM24

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# Inhibition of Melanoma Growth Following CM24 and CM24 + TIL Treatment

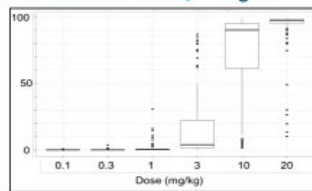
CM24 activity is Demonstrated as Single Agent and in Combination with TILS



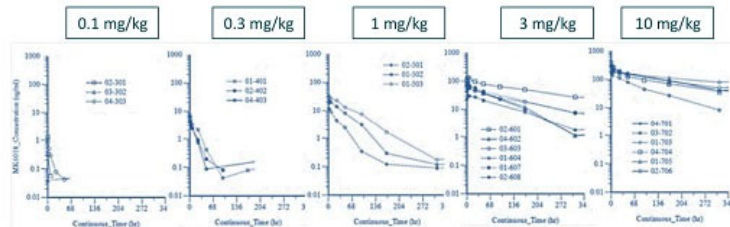
# PHASE 1 PK DATA

Target saturation was not reached with doses up to 10mg/kg

Predictions with Q3W regimen



- Modeling with increased interval between doses demonstrates lower TMDD at 10mg/kg dose
- With Q3W, 20mg/kg dosing is not sufficient for saturation across population



Slower clearance with increasing dose

Higher half-life with increasing dose





## Appendix B - NT219

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# Selected Publications



Michael  
Karin

Oncogene (2014) 33, 2634–2644  
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www.nature.com/onc

## ORIGINAL ARTICLE

Targeting colorectal cancer via its microenvironment by inhibiting IGF-1 receptor–insulin receptor substrate and STAT3 signaling

E. Sanchez-Lopez<sup>1</sup>, E. Fashen-Abramson<sup>2</sup>, S. Shalipov<sup>3</sup>, Z. Zhang<sup>4</sup>, K. Taniguchi<sup>5,6</sup>, A. Levitzki<sup>7</sup> and M. Karin<sup>1</sup>



Alexander  
Levitzki

Oncogene (2014) 33, 2671–2688  
© 2014 Macmillan Publishers Limited. All rights reserved. 0950-0215  
www.nature.com/onc

## SHORT COMMUNICATION

Targeting melanoma with NT157 by blocking Stat3 and IGF1R signaling

E. Fashen-Abramson<sup>1</sup>, S. Kato<sup>2</sup>, G. Motti<sup>3</sup>, E. Shoshan<sup>4</sup>, H. Song<sup>5</sup>, A. Shif<sup>6</sup>, Y. Lang<sup>7</sup>, M. Bar-El<sup>8</sup>, M. Reuveni<sup>1,9,10</sup> and A. Levitzki<sup>1,11</sup>



Menashe  
Bar-Eli

Published OnlineFirst May 7, 2013; DOI: 10.1158/1535-7163.MCT-12-3385

Therapeutics, Targets, and Chemical Biology

Therapeutic Destruction of Insulin Receptor Substrates for Cancer Treatment

Hadas Reuveni<sup>1,2</sup>, Eyal Fashen-Abramson<sup>3</sup>, Lieth Stadler<sup>4</sup>, Ravi Mahalingam<sup>5,6</sup>, Huijun Song<sup>7</sup>, Alexei Shif<sup>8</sup>, Mordechai Harari<sup>9</sup>, Menashe Bar-El<sup>10</sup>, and Alexander Levitzki<sup>11</sup>



Michael  
Cox

Published OnlineFirst September 26, 2014; DOI: 10.1158/1535-7163.MCT-13-0842

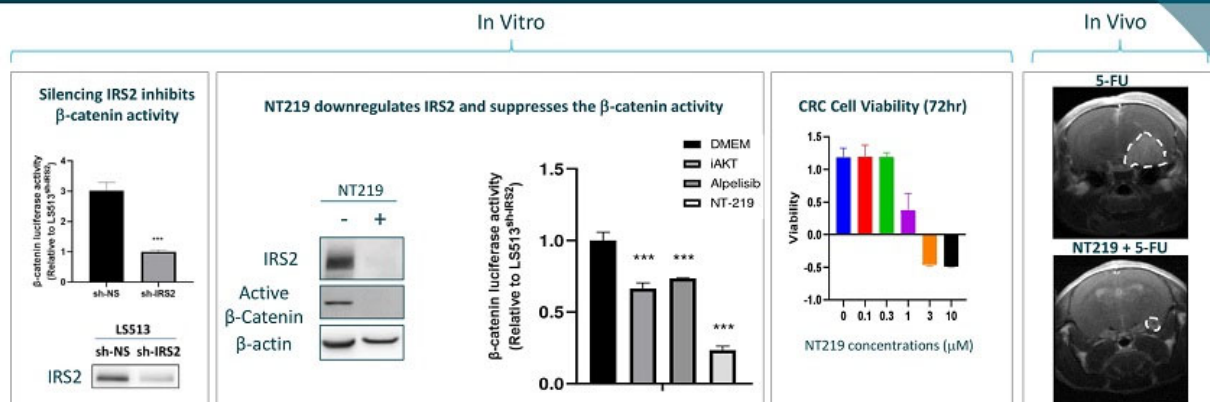
Small Molecule Therapeutics

The Tyrosinase NT157 Suppresses Insulin Receptor Substrates and Augments Therapeutic Response of Prostate Cancer

Nakatsu Rishi<sup>1,2</sup>, Mayar Ghafler<sup>3,4</sup>, Hadas Reuveni<sup>5,6</sup>, Mitul Pandey<sup>7</sup>, Lucien Fazio<sup>8</sup>, Mordechai Harari<sup>9</sup>, Martin E. Gleave<sup>10</sup>, Alexander Levitzki<sup>11</sup>, and Michael E. Cox<sup>12</sup>



# NT219 | Suppresses $\beta$ -Catenin activity in CRC Cells and Inhibited CRC Brain Metastasis



Colon cancer LS-513 cells overexpressing IRS2 demonstrate enhanced  $\beta$ -catenin activity.

Targeted inhibition of IRS2 by NT219 or IRS2-SH RNA, suppresses the increased  $\beta$ -catenin activity and inhibit LS-513 cell viability.

**Combination of 5-FU and NT219 significantly inhibited the growth of CRC tumors in brain, using intracranial model and extended mice survival.**



AACR Annual Meeting, April 2021, AACR Virtual Special Conference on Epigenetics and Metabolism, Oct 2020, Ido Wolf, MD, Head of Oncology Division, Tel Aviv Sourasky Medical Center

# NT219 | Pancreatic Cancer in Combination with Gemcitabine



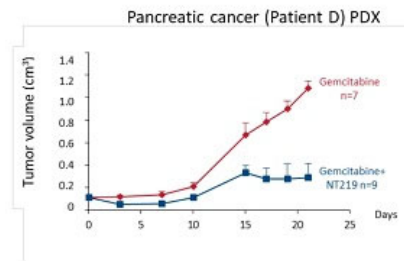
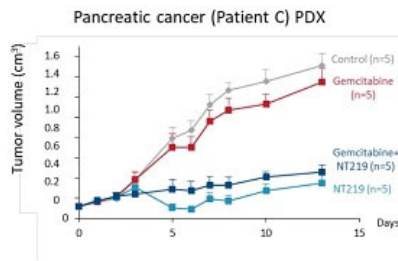
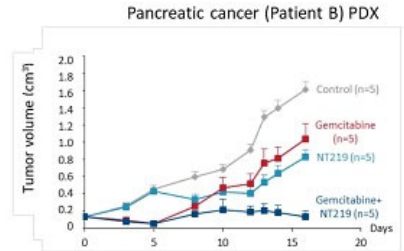
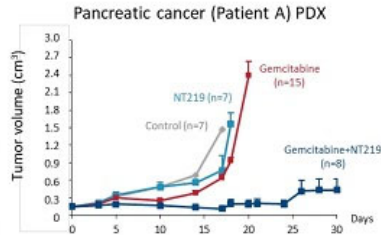
PDX model  
**Pancreatic Cancer**



Drug  
**Gemcitabine (Gemzar®)**



## Highly effective anti cancer activity exhibited by NT219 in combination with Gemcitabine



# RNA Sequencing | Analysis of Tumors Following Treatment



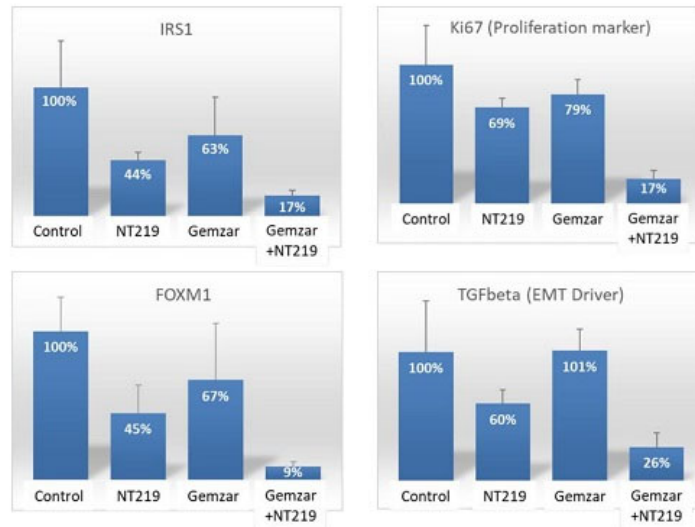
PDX model  
**Pancreatic Cancer**



Drug  
**Gemcitabine (Gemzar®)**



Reduced expression of IRS1, Ki67, FOXM1 & TGFb is exhibited by pancreatic cancer treated with NT219 alone and in combination with gemcitabine



# NT219 – DEMOGRAPHICS & SAFETY

## 3 mg/kg Dose Level as a Single Agent

### Patients Demographics

Demographics of Patients treated with NT219 3mg/kg (n=3)	
Median age (range)	74 (69-79)
Male/Female, n (%)	2(66.6%)/1(33.3%)
Race	
White n (%)	3 (100%)
Prior Lines of Therapy	
3 n (%)	1 (33.3%)
4, n (%)	1 (33.3%)
11, n (%)	1 (33.3%)
Diagnosis, n	
Pancreatic Cancer	1
Gastroesophageal Junction Cancer	1
Breast Cancer	1
ECOG, n (%)	
1	3 (100%)
Median time from initial Diagnosis, Months (range)	62 (22-90)

### Summary of Adverse Events

Adverse Event Description	Grade 1 n (#Events)	Grade 2 n (#Events)	Grade 3 n (#Events)
Abdominal Pain	1(2)	1(1)	
Alanine Aminotransferase Increased	1(1)		
Alkaline Phosphatase Increased			1(1)*
Aspartate Aminotransferase Increased	1(1)		
Back Pain		1(1)	
Belching	2(2)		
Cellulitis Left Foot		1(1)	
Dyspnea	2(2)		
Fatigue	1(1)		
Nausea	1(1)	1(1)	
Rash Pustular		1(1)	
Retching	1(2)		
Toxic Encephalopathy			1(1)**

\*Transient- G2 after 2 weeks, \*\*Transient- less than 24h



Presented at the ASCO annual meeting June 2021