

Neurotech

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NTI / Dolce Strains Demonstrate Potential Benefits for Multiple Sclerosis Disease Management

Highlights:

- Initial in vitro studies were carried out in collaboration with the internationally recognised Neurodevelopment in Health & Disease Laboratory at RMIT University (Melbourne) to assess the effects of the lead NTI/Dolce strains ("NTI/Dolce Strains") on key neuro-markers that are used in assessing the onset and progression of Multiple Sclerosis (MS).
- The Results set out below demonstrate that the NTI/Dolce Strains were significantly more potent than CBD alone in suppressing the neuro-inflammatory markers, GM-CSF and TNF-alpha, in a neural cell-line culture.
- There is a strong medical need for treatment alternatives which include the potential of utilising the NTI/Dolce Strains given they have < 0.3% THC and a full spectrum cannabinoid profile that has already demonstrated the activation of alternative anti-inflammatory neuro modulatory pathways that differ considerably to CBD alone products.

Neurotech International Limited (ASX: NTI) ("Neurotech" "NTI" or "the Company") is pleased to announce the continuation of its pre-clinical program in neuro-inflammatory disease models in-line with our research and development pathway. Recently completed initial in vitro studies conducted in collaboration with the internationally recognised Neurodevelopment in Health & Disease Laboratory at RMIT University (Melbourne) have demonstrated that NTI/Dolce Strains were significantly more potent than CBD alone in suppressing the production of two key inflammatory neuro-markers.

These results, summarised in the table below, reconfirm the powerful neuro-modulatory, neuro-regulatory and neuro anti-inflammatory properties of the novel NTI/Dolce Strains (which comprise of rich extract of CBDA, CBGA, CBDDB, CBDP and <0.3% THC) compared to CBD alone which is limited in its cellular activity. These preclinical studies will pave the way for further expansion and analysis of other neuro-markers involved in MS.

Treatment	Neuro-Markers	
	GM-CSF NTI/Dolce Strain: Mean +/- SEM: 59.2 +/- 7.3 (p<0.001)	TNF-alpha NTI/Dolce Strain: Mean +/- SEM: 70.1 +/- 1.75 (p<0.001)
NTI/Dolce Strain	Significant suppression on the activity of neuro-marker: GM-CSF N=8 40% reduction	Significant suppression on the activity of neuro-marker: TNF-alpha N=8 30% reduction
CBD alone	N=8 No significant effect	N=8 No significant effect

- Studies were carried out using Multiplex Quantitation System. The system allows for the accurate measurement of these neuro-markers levels. Measurements are done via fluorescence and expressed as F1 values.
- Positive controls: Interleukin and Interferon activity at 100%.
- All results are compared to positive control expressed as 100% activation.

Neurotech International Ltd

ABN 73 610 205 402
Suite 5 CPC, 145 Stirling Highway
Nedlands, Western Australia 6009
www.neurotechinternational.com

Key neuro-markers involved in the onset and progression of MS include:

- Granulocyte Granulocyte-macrophage colony-stimulating factor (GM-CSF)
- Tumour Necrosis Factor (TNF-alpha)
- Interferon (IFN)
- Interleukins (IL-2)

NTI is committed to the development of a solid scientific portfolio for the expansion of application and use of the NTI/Dolce Strains beyond autism. Further preclinical studies will determine mode of action and safety to design and undertake a Phase I/II clinical study in MS.

“There are a number of very powerful neuro-markers that are currently being used to assess disease onset and progression,” said Brian Leedman, Chairman of Neurotech. “To be able to suppress or regulate these markers may be very beneficial in the overall disease management”.

What is MS?

- It is a chronic, typically progressive disease involving damage to the sheaths of nerve cells in the brain and spinal cord, whose symptoms may include numbness, impairment of speech and of muscular coordination, blurred vision, and severe fatigue, chronic pain, blindness.
- The global multiple sclerosis drugs market size was valued at \$25Billion USD in 2019 and is expected to reach \$40Billion by 2027, exhibiting a CAGR of 7.1% (reference: <https://www.fortunebusinessinsights.com/industry-reports/multiple-sclerosis-drugs-market-100386>).
- Current therapies have many unwanted side effects (i.e., liver damage, nausea, brain fog) and can result in poor patient compliance.
- Medicinal cannabis has been trialled by various research and patient groups across the Globe. According to MS Research Australia medicinal cannabis can be useful to treat some of the symptoms of MS in some people. To date there is anecdotal evidence that medicinal cannabis can have an effect on the disease course itself, by reducing the number of relapses, and /or slowing the progression of the disease and accumulation of disability. Clinical trial data on medicinal cannabis is very limited to date (reference: <https://msra.org.au/medicinal-cannabis-ms/>)
- CBD has assisted many patients with their overall pain management and improved quality of life (reference: <https://msra.org.au/medicinal-cannabis-ms/>). According to MS Research Australia a review of up to 600 patients with MS who took medicinal cannabis felt that their spasticity was reduced and felt that their pain related to spasticity and sleep disturbance were also improved. The study participants were able to complete a walking task faster, but not all objective measurements of spasticity were improved (reference: <https://msra.org.au/medicinal-cannabis-ms/>)

Authority

This announcement has been authorised for release by the Board of the Company.

Further Information

Brian Leedman
Chairman
b.leedman@neurotechinternational.com
+61 (0)41 228 1780

Winton Willesee
Non-Executive Director
winton@azc.com.au
+61 (0)41 066 7844

About Neurotech

Neurotech International Limited is a medical device and solutions company conducting clinical studies to assess the neuro-protective, anti-inflammatory and neuro-modulatory activities of our proprietary NTI/Dolce cannabis strains. Neurotech is also commercialising Mente, the world's first home therapy that is clinically proven to increase engagement and improve relaxation in autistic children with elevated Delta band brain activity. For more information about Neurotech and Mente Autism please visit <http://www.neurotechinternational.com>

Raw Data:

NTI/Dolce lead	NTI/Dolce lead	Positive Control	CBD alone	CBD alone
GMCSF	TNF-alpha	Interferon gamma & Interleukin activation	GMCSF	TNF-alpha
67.5	65	101.1	66.7	90.1
58	68	99.8	105.6	98
63	79	105	93.5	98
59.2	68	100	70.2	106
52.7	66	101	127.8	105
61.2	65.5	102	134	102
59.7	72.5	103	110	97
58	77	100.1	87	101.1
Mean $\pm$ SEM: 59.9 $\pm$ 1.51	Mean $\pm$ SEM: 70.1 $\pm$ 1.91	Mean $\pm$ SEM: 100.1 $\pm$ 0.63	Mean $\pm$ SEM: 99.3 $\pm$ 8.72	Mean $\pm$ SEM: 99.6 $\pm$ 1.79

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