NeuroSense Investor Relations

NeuroSense Therapeutics Reports Positive Final Results from Alzheimer's Biomarker Study

- ***Elevated levels of novel biomarker TDP-43 in Alzheimer's disease (AD) show the therapeutic potential of NeuroSense's combination platform***
- ***Phase 2 double-blind proof-of-concept clinical study expected to commence in H1 2023***

CAMBRIDGE, Mass., Jan. 19, 2023 /PRNewswire/ -- NeuroSense Therapeutics Ltd. (Nasdaq: NRSN) ("NeuroSense"), a company developing treatments for severe neurodegenerative diseases, today announced final results from a biomarker study conducted to evaluate the potential of NeuroSense's combination platform therapy for the treatment of Alzheimer's disease (AD). Preliminary results from the study, showed that TDP-43, a novel biomarker, was elevated in AD patients compared to a healthy control group. Based on these encouraging preliminary results, NeuroSense expanded the study with a larger healthy control group to further validate the results.

TDP-43 has been known to colocalize with senile plaques and neurofibrillary tangles, suggesting a direct interaction between TDP-43 and amyloid-β (Aβ) or tau, which are known to be hallmark biomarkers in AD. TDP-43 has been found in up to 57% of AD cases and aggregates of TDP-43 have been shown to be cytotoxic both *in vitro* and *in vivo*.[1]

NeuroSense's platform combination therapy technology has already shown a statistically significant reduction of TDP-43 in a Phase 2a clinical trial biomarker study in another neurodegenerative disease, amyotrophic lateral sclerosis (ALS), and is now being evaluated in a Phase 2b ALS double-blind clinical trial.

NeuroSense believes these most recent biomarker results show the importance of TDP-43 pathology in AD and suggest the potential efficacy of NeuroSense's platform technology in Alzheimer's disease.

NeuroSense plans to commence a Phase 2 double-blind proof-of-concept study in Alzheimer's disease in the first half of 2023.

About Alzheimer's Disease

Alzheimer's disease (AD) is the most common form of progressive dementia, affecting 5-10% of the population over 65 years of age, with prevalence estimates increasing exponentially with age (Singh and Fudenberg 1988). Clinically, it is characterized by a progressive deterioration of cognition, predominantly affecting episodic memory, but also resulting in loss of insight, judgment, language, changes in perception, praxis (the ability to perform day-to-day tasks), behavior, lack of sleep, mood swings, and in late stages, physical functioning (Chouraki and Seshadri 2014). The global AD treatment market is expected to grow to $5 billion in 2022.

About TDP-43

Transactive response DNA binding protein of 43 kDa (TDP-43) is involved in regulation of gene expression. AD patients with TDP-43 pathology have increased severity of cognitive impairment compared to those without TDP-43 pathology. Additionally, the strongest genetic risk factor for AD, apolipoprotein E4 (APOE4), is associated with increased frequency of TDP-43 pathology.[1]

About NDEs

NeuroSense's biomarker study utilized neuronal-derived exosomes (NDEs) extracted from plasma. NDEs are small extracellular vesicles (EVs) generated by neurons that encapsulate a variety of molecules such as proteins, nucleic acids, and metabolites. ExoSORT™ by NeuroDex was used to identify NDEs in this biomarker study. Identification of NDEs and their cargo in body fluids can facilitate the discovery of new biomarkers for prognosis and therapy, as these vesicles can pass the blood-brain barrier (BBB) and provide a depiction of the current physiological status of neurons in the brain.

About NeuroSense

NeuroSense Therapeutics, Ltd. is a clinical-stage biotechnology company focused on discovering and developing treatments for patients suffering from debilitating neurodegenerative diseases. NeuroSense believes that these diseases, which include amyotrophic lateral sclerosis (ALS), Alzheimer's disease and Parkinson's disease, among others, represent one of the most significant unmet medical needs of our time, with limited effective therapeutic options available for patients to date. Due to the complexity of neurodegenerative diseases and based on strong scientific research on a large panel of related biomarkers, NeuroSense's strategy is to develop combined

therapies targeting multiple pathways associated with these diseases.

For additional information, we invite you to visit our website and follow us on LinkedIn and Twitter.

Forward-Looking Statements

This press release contains "forward-looking statements" that are subject to substantial risks and uncertainties. All statements, other than statements of historical fact, contained in this press release are forward-looking statements. Forward-looking statements contained in this press release may be identified by the use of words such as "anticipate," "believe," "contemplate," "could," "estimate," "expect," "intend," "seek," "may," "might," "plan," "potential," "predict," "project," "target," "aim," "should," "will" "would," or the negative of these words or other similar expressions, although not all forward-looking statements contain these words. Forward-looking statements are based on NeuroSense Therapeutics' current expectations and are subject to inherent uncertainties, risks and assumptions that are difficult to predict and include statements regarding the risk that the Phase 2 double-blind proof-of-concept clinical study will be delayed or not occur; the company's AD development program; the potential for NeuroSense's platform technology to safely and effectively target AD; preclinical and clinical data for NeuroSense's platform technology; the timing of current and future clinical trials; the nature, strategy and focus of the company and further updates with respect thereto; and the development and commercial potential of any product candidates of the company. Further, certain forward-looking statements are based on assumptions as to future events that may not prove to be accurate. Forward-looking statements contained in this announcement are made as of this date, and NeuroSense Therapeutics Ltd. undertakes no duty to update such information except as required under applicable law.

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[1] Meneses, A., Koga, S., O'Leary, J. *et al.* TDP-43 Pathology in Alzheimer's Disease. *Mol Neurodegeneration* **16,** 84 (2021). https://doi.org/10.1186/s13024-021-00503-x

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