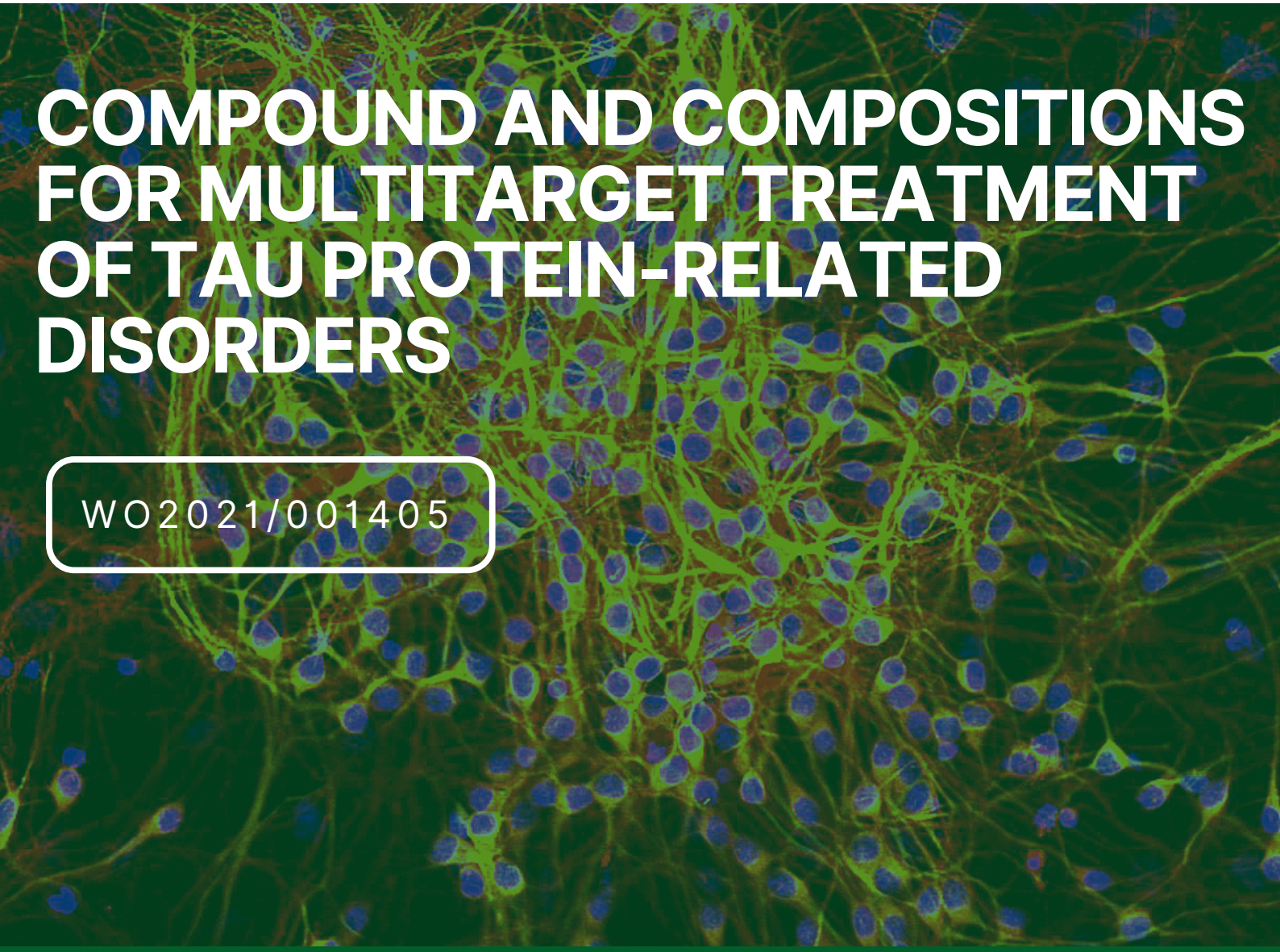
# TTO4IRCCS

## LICENSING OPPORTUNITIES

Fondazione I.R.C.C.S. Istituto Neurologico Carlo Besta

Sistema Socio Sanitario

Regione Lombardia



# COMPOUND AND COMPOSITIONS FOR MULTITARGET TREATMENT OF TAU PROTEIN-RELATED DISORDERS

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Applications:
- Prevention/treatment of Alzheimer's disease.
- Prevention/treatment of other neurodegenerative diseases due to misfolding and dysfunction of tau protein.

Key benefits:
- Inhibition of aggregation of β-amyloid and tau proteins.
- Inhibition of the β-secretase cleavage of Amyloid Precursor Protein (APP).
- Binding of β-amyloid oligomers to tau protein.
- Prevention of synaptic damage.

Offer:
- Licensing out.
- Co-Development.

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## COMPOUND AND COMPOSITIONS FOR MULTITARGET TREATMENT OF TAU PROTEIN-RELATED DISORDERS

INVENTION

Therapeutic approach based on a protective genetic variant of β-amyloid able to interfere at multiple levels with tau-related pathogenic events involved in tauopathies.

BACKGROUND

Tau protein formation and accumulation is an event caused by misfolding of β-amyloid protein (Aβ) – as in Alzheimer's disease (AD) - or spontaneously occurring – as in other tauopathies - which results in widespread synaptic loss and neurodegeneration. To date, no effective treatments or prevention strategies are available for the cure of patients affected by AD and other tau protein-related disorders. As a consequence of the lack of efficient drugs, the impact on the quality of life of patients and their families is severe, accompanied by immense psychological pain; furthermore, the massive economic burden associated with AD and other tauopthies must be considered. For those compelling reasons, the identification of effective therapeutic strategies is considered a priority by worldwide health organizations, both public and private, and acted upon accordingly.

TECHNOLOGY

The inventors of the patent found that the Aβ1-6A2V(D) hexapeptide - derived from a naturally occurring genetic variant of human Aβ that is protective against Alzheimer's disease - is able to interfere at multiple levels with pathogenic events involved in tauopathies by: hindering Aβ aggregation and β-secretase activity; inhibiting binding of Aβ1-42 oligomers to tau protein; hindering polymerization of full-length tau protein; inhibiting synaptic dysfunction. The combination of these varied activities in a single drug makes available an ideal therapeutic asset for the treatment of diseases due to tau misfolding and dysfunction. In a preferred embodiment, Aβ1-6A2V(D) is administered by the intranasal route, obtaining a robust diffusion of the peptide through the blood-brain barrier, with effective delivery of the peptide in the most important brain areas involved in tau pathology.

INVENTORS

Tagliavini Fabrizio, Di Fede Giuseppe, Salmona Mario.

INTELLECTUAL PROPERTY RIGHTS

Patent granted in Italy and Europe.

OFFER

Licensing out & co-development.

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