

A PANEL OF NOVEL MICRORNA BIOMARKERS IN BLOOD FOR EARLY DIAGNOSIS AND THE DESIGN OF PERSONALIZED THERAPY IN ALZHEIMER'S DISEASE

PROBLEM DESCRIPTION

Effective AD therapy does not exist and only symptomatic treatments are available. One of prerequisites for effective therapy is early and specific diagnosis. AD starts years before the clinical manifestation and gradually progresses.

Currently AD diagnosis is based on a battery of neuropsychological tests and neurological assessment of AD symptoms, which is already late regarding the AD pathogenesis. There are no easy to access, non-invasive diagnostic biomarkers for early AD, as well as enabling personalized AD therapy.

STAGE OF DEVELOPMENT

DISCOVERY

VERIFIED ON HUMAN SAMPLES

MINIMAL VIABLE PRODUCT

CLINICAL TRIALS DONE

INNOVATION OF THE SOLUTION

Application of microRNAs for detection which of complex molecular factors contribute to early stages of AD pathology. Detection of 19 microRNAs circulating in blood may enable detection of AD before symptoms occur. Moreover, relative plasma levels of miRNAs within the panel allow for the identification of the signaling pathways contributing to AD pathogenesis enabling personalized therapy once it is available.

THE MOST IMPORTANT ADVANTAGES

Novel approach enabling early AD detection and patients' sub-classification. Non-invasive and easy-to-access as it requires blood samples not the cerebrospinal fluid. Implementable within widely used real-time PCR methodology platform as a diagnostic panel.

PROJECT CORE TEAM

[Urszula Wojda](#)

[Jacek Kuźnicki](#)

KEY PUBLICATION

Nagaraj S, et al. 2017 Oncotarget. DOI: 10.18632/oncotarget.15109
Nagaraj S, et al. 2019. Ageing Res Rev. DOI: 10.1016/j.arr.2018.10.008
Nagaraj S, et al. 2021 Int J Mol Sci. DOI: 10.3390/ijms22073653

KEY WORDS



NEUROLOGICAL DISEASES



BLOOD BIOMARKER



RNA BIOMARKER



COMPANION DIAGNOSTIC



PERSONALIZED THERAPY



DIAGNOSTICS

INTELLECTUAL PROPERTY STATUS

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CONTACT DETAILS

DOROTA GIEREJ-CZERKIES

phone +48 22 589 22 63 | e-mail: d.gierej-czerkies@nencki.edu.pl

www.nencki.gov.pl