1. Record Nr. UNINA9910261144503321

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Titolo	Biomarkers of Alzheimer's Disease: The Present and the Future
Pubbl/distr/stampa	Frontiers Media SA, 2016
Descrizione fisica	1 electronic resource (218 p.)
Collana	Frontiers Research Topics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

Sommario/riassunto

Alzheimer disease (AD) is a neurodegenerative disorder characterized by significant cognitive deficits, behavioral changes, sleep disorders and loss of functional autonomy. AD represents the main cause of dementia and has become a major public health issue. In addition, the number of patients suffering from AD is growing rapidly as the population ages worldwide. Memory impairment is usually the earliest clinical and core symptom of this disease. The diagnosis at a late clinical stage is relatively easy. However, a delay in the diagnosis is damageable for the handling of patients in terms of optimal medical and social care. The actual interest of the scientific head-ways is to optimize the diagnosis in prodromal stage of the disease and to propose personalized therapeutic solutions to individual patients. New revised AD diagnostic criteria include early alteration of cerebrospinal fluid (CSF) biomarkers: decrease of amyloïd peptides (Aß42), and increase in tau and phosphorylated-tau (p-tau) protein concentration. This recognition of CSF biological biomarkers for the diagnosis of AD is a major step towards the “molecular” diagnosis and follow-up of the disease. Many issues are however still subject of debate. This e-book provides a comprehensive overview of the state of the art of fluid biomarkers for AD, e.g. which novel biomarkers should be implemented in clinical practice for diagnosis or for monitoring treatment or side effects, which ones are new for AD or related dementias or what is the potential of peripheral blood markers.

Moreover, the e-Book provides practical guidelines how to optimally and efficiently develop and validate novel biomarker assays, and to document and control pre-analytical variation.