

TaqMan® Human Alzheimer's Array

TaqMan® Mouse Alzheimer's Array

These arrays are part of a collection of TaqMan® Gene Signature Arrays that enable analysis of hundreds of TaqMan® Gene Expression Assays on a micro fluidic card with minimal effort.

Alzheimer's disease (AD) is a progressive and fatal neurodegenerative disorder for which there is no effective treatment. The disease has a characteristic neuropathology—cerebral plaques containing beta-amyloid (A β) deposits and neurofibrillary tangles composed of the microtubule-associated protein tau. There is strong evidence that generation and deposition of beta-amyloid has a pivotal role in pathogenesis. The formation of neurofibrillary tangles, glutamateric excitotoxicity, activation of microglial cells and astrocytes, inflammation, activation of the cascade of apoptotic cell death, oxidation and lipid peroxidation are thought to be secondary consequences of production and accumulation of beta-amyloid¹. Overexpression of human amyloid precursor protein (APP) in transgenic mouse models of Alzheimer's disease result in neural plaques resembling those in human AD, and the mice accumulate A β and show learning and memory deficits².

TaqMan Gene Expression Assays for the TaqMan® Alzheimer's Arrays were based on the 'amyloid hypothesis'. We selected genes involved in APP processing that generate A β and included genes implicated in multiple secondary steps of A β aggregation, tau hyperphosphorylation, excitotoxicity, inflammation, oxidation and microglial activation. We also added assays for genes involved in cholesterol biosynthesis because of the correlation between high cholesterol and increased risk of AD³. Numerous reports of genes associated with AD pathology, biochemistry and genetics are also included⁴⁻¹⁸.

Two TaqMan Arrays for Alzheimer's are available; one for human and one for mouse. The mouse assays closely follow the human array and are from orthologous genes of the human assays. The human array contains 94 test assays and two endogenous controls (18S and HPRT1). The mouse array has 92 assays and four controls (18S, actb, hprt1 and ipo8).

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