

Oligo GEArray® Human Alzheimer's Disease Microarray

HybTube Format Cat. No. [OHS-057](#)
HybPlate Format Cat. No. [EHS-057](#)

Description

The Oligo GEArray® Human Alzheimer's Disease Microarray is designed for profiling the expression of 113 genes important in the onset, development, and progression of Alzheimer's disease. The array includes genes that contribute to amyloid beta-peptide (A β) generation, clearance and degradation, as well as genes involved in amyloid beta-peptide (A β) signal transduction leading to neuronal toxicity and inflammation. Through a simple side-by-side hybridization experiment you can determine differential gene expression between your samples.

Functional Gene Groupings

Genes Involved in Beta-amyloid Generation, Oligomerization, Clearance, and Degradation:

Secretases: ADAM10, ADAM17, ADAM9, APH1A, BACE1, BACE2, CTSB, NCSTN, PSEN1, PSEN2.

Other Peptidases Involved in Beta-amyloid Degradation: ECE2, IDE, MME, PLAT, PLAU, PLG.

Beta-amyloid clearance through endocytosis: APLP1, APP, LRP1, LRP10, LRP3, LRP4, LRP5, LRP6, LRP8.

Other genes involved in beta-amyloid metabolism: A2M, ACHE, APBB1, APBB2, APOE, BCHE, UBQLN1.

Genes involved in Microtubule/Cytoskeleton Reorganization: APOE, MAP2, MAPT, PKP4, PRKCI, SGCA.

Genes involved in Synaptic Formation:

Synaptic transmission: APBA1, APOE, CHAT, NPY, PDE7B.

Other synaptic functions: ACHE, APBA1, APBB1, APBB2, APOE, BDNF, SYP.

Genes involved in Cholesterol Metabolism: ABCA1, APOA1, APOE, DHCR24, LRP8, SYP.

Genes involved in Lipid and Lipoprotein Metabolism: AGPS, APOA1, APOE, CLU, HADH2, INS, LPL, LRP1, LRP5, LRP8, SNCB.

Hormone and Hormone Processing Genes: BACE2, ECE2, GAL, INS, NPY, SST.

Genes involved in Apoptosis:

Induction of apoptosis: APOE, CASP3, CASP4, ERN1, PRKCA, PRKCE.

Anti-apoptosis: IL1A, MPO, PRKCZ, PSEN1, SNCA.

Other genes involved in apoptosis/cell death: APLP1, APP, APPBP1, CLU, EP300, ERN2, MAPT, PSEN2, VSNL1.

Cell Cycle Regulators:

Cell cycle arrest: APBB1, APBB2, ERN1.

Other cell cycle genes: APBB1, APBB2, APPBP1, CDC2, CDK5, CDKL1, EP300, IL1A, PRKCA.

Protein Kinases: CDC2, CDK5, CDKL1, ERN1, ERN2, GSK3A, GSK3B, INSR, PRKCA, PRKCB1, PRKCD, PRKCE, PRKCG, PRKCI, PRKCQ, PRKCZ.

Cell Signaling Molecules:

Wnt receptor signaling: GSK3B, LRP5, LRP6.

Notch signaling: ADAM10, APH1A, NCSTN, PSEN1, PSEN2.

G-protein coupled receptor protein signaling: APLP2, ECE2, GNAO1, GNAZ, GNB1, GNB4, GNB5, GNG10, GNG11, GNG12, GNG13, GNG3, GNG4, GNG5, GNG7, GNG8, GNGT1, GNGT2.

Intracellular signaling: APBA3, APBB2, APBB3, PRKCA, PRKCB1, PRKCD, PRKCE, PRKCG, PRKCI, PRKCQ, PRKCZ, PSEN1, PSEN2.

Other signaling molecules: APPBP1, GAL, GAP43, GNB2, IDE, IL1A, INSR, NPY, PLAU.

Transcription regulators: APBB1, APBB2, EGR3, EP300, ERN1, ERN2, FALZ, PHF1, TFAP4.

Other genes involved in Alzheimer's disease:

Oxidoreductases and oxidative stress: DHCR24, HADH2, MPO, SCARA3, UQCRC1, UQCRC2.

Proteases: ACE, CTSC, CTSD, CTSG, CTSL, SERPINA13, UQCRC2.

Protease inhibitors: APLP2, APP, SERPINA13, SERPINA3, SPINT2.

Continued: next page

Oligo GEMArray® Human Alzheimer's Disease Microarray

Storage Conditions

Please check the kit components immediately after you receive this package. SuperArray is only responsible for missing items reported within two (2) business days of receipt.

GEMArray microarrays are shipped at ambient temperature enclosed in either a HybTube or ExpressPak Storage Box. They should be stored at -20°C upon receipt.

References

1. Tanzi, R.E. and Bertram, L. (2005) *Cell*, **120**, 545-555.
2. Fuentealba, R.A., Farias, G., Scheu, J., Bronfman, M., Marzolo, M.P. and Inestrosa, N.C. (2004) *Brain Research Reviews*, **47**, 275-289.
3. The Ronald and Nancy Reagan Research Institute of the Alzheimer's Association and, N.I.o.A.W.G. (1998) *Neurobiology of Aging*, **19**, 109-116.
4. Bertram, L. and Tanzi, R.E. (2004) *Hum. Mol. Genet.*, ddh077.