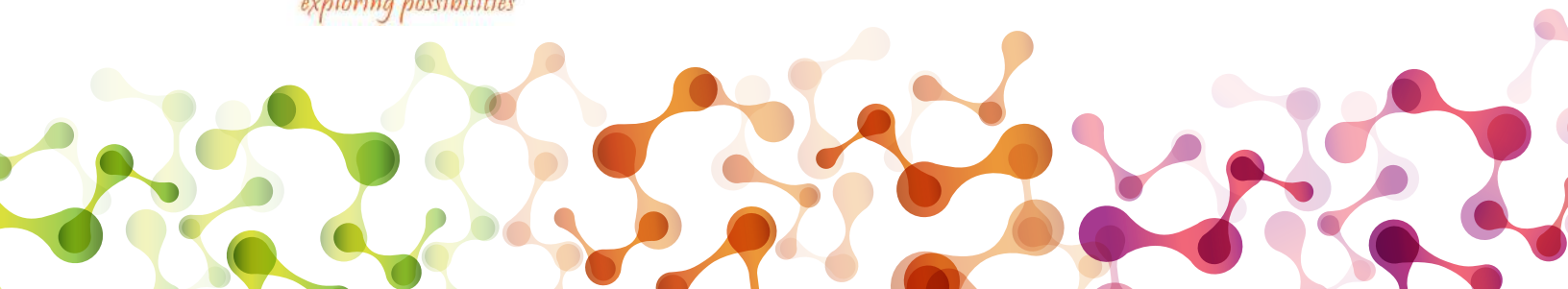


ALZHEIMER'S DISEASE PRODUCTS

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Alzheimer's Disease

Alzheimer's disease (AD) is one of the most common neurodegenerative diseases worldwide. Clinically, it is characterized by the presence of extracellular amyloid plaques and intracellular neurofibrillary tangles, resulting in neuronal dysfunction and cell death. Two hypotheses for the onset of AD receive the majority of research attention today. The Amyloid beta hypothesis focuses on the differential processing of the Amyloid Precursor Protein (APP). The Tau hypothesis focuses on the hyperphosphorylation of the Microtubule-Associated Protein Tau (MAPT). Besides these two main areas, the inflammation related overexpression of Arginase in the brain and the depletion of the key nutrient Arginine in the brain has also received increasing interests.

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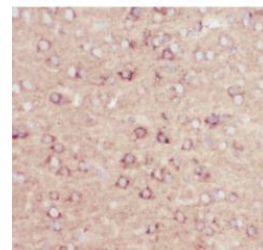
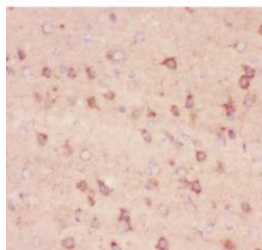
Differential Processing of APP

In the normal state, APP is cleaved by alpha secretase and generates the soluble APP (sAPP) which is an important neurotrophic factor involved in synaptic signaling, synaptic plasticity, learning and memory, emotional behaviors, and neuronal survival. In the diseased state, APP is cleaved by beta secretase and gamma secretase to generate sAPP and a special form of Amyloid Beta (Abeta) called A40/42. This form of Amyloid Beta tends to aggregate and form plaques and oligomers, both are neurotoxic.

Beta Amyloid

Beta Amyloid, also called Abeta or Aβ, denotes peptides of 36–43 amino acids that are crucially involved in Alzheimer's disease as the main component of the amyloid plaques found in the brains of Alzheimer patients. It is mapped to 19q13.12. Several potential activities have been discovered for beta Amyloid, including activation of kinase enzymes, functioning as a transcription factor, and anti-microbial activity (potentially associated with beta Amyloid's proinflammatory activity). Moreover, monomeric beta Amyloid is indicated to protect neurons by quenching metal-inducible oxygen radical generation and thereby inhibiting neurotoxicity.

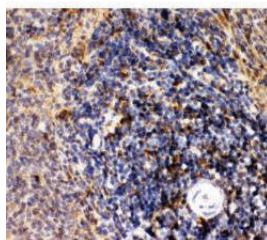
Anti-beta Amyloid Antibody



Neprilysin

Neprilysin, also known as membrane metalloendopeptidase, neutral endopeptidase (NEP), CD10, is a zinc-dependent metalloprotease enzyme that degrades a number of small secreted peptides, including amyloid beta peptide. By cDNA transfection analysis, CD10 is confirmed as a functional neutral endopeptidase of the type that has previously been called enkephalinase.

Anti-CD10 Antibody



Gene Name	Product Name	Applications
APP	Anti-ABCG4	ELISA
NAE1	Anti-ACHE	WB
ADAM10	Anti-ADAM17	WB
APBB1	Anti-Alpha 2a Adrenergic Receptor	WB
GAPDH	Anti-Alpha 2A Adrenergic Receptor	WB
PSEN2	Anti-GRK3	WB, IHC-P
LPL	Anti-RAGE	WP
APOE	Anti-RAGE	WB, IHC-P
LRP1	Anti-AIMP2/p38	WP
MME	Anti-ALDH1A1	ELISA
APP	Anti-ALDH1A2	WB, IHC-P
MME	Anti-ALK	WB, IHC-P

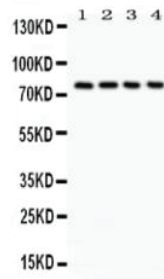
Hyperphosphorylation of Tau

MAPT is an important component of the cytoskeleton. The hyperphosphorylation of Tau can result in its dissociation from microtubules, which in turn, destabilize and form neurofibrillary entanglements. These entanglements prevent the transportation of nutrients and materials within the cell and eventually lead to cell death. GSK-3 and CDK5 are the kinases primarily responsible for phosphorylation of Tau, although other kinases such as PKC, PKA, and Erk2 are also involved.

MAPT (Tau)

Microtubule-associated protein tau (MAPT), is enriched in axons. The tau proteins are the product of alternative splicing from a single gene that in humans is designated MAPT. Tau proteins are proteins that stabilize microtubules. They are abundant in neurons in the central nervous system and are less common elsewhere. When tau proteins are hyperphosphorylated, it can no longer stabilize microtubules properly, creating entanglements in the neuronal cytoskeletons. This leads to cell death and causes Alzheimer's disease.

Anti-Tau Antibody



Anti-Tau antibody, Western blotting

All lanes: Anti at 0.5ug/ml

Lane 1: Rat Brain Tissue Lysate at 50ug

Lane 2: Mouse Brain Tissue Lysate at 50ug

Lane 3: HT1080 Whole Cell Lysate at 40ug

Lane 4: MCF-7 Whole Cell Lysate at 40ug

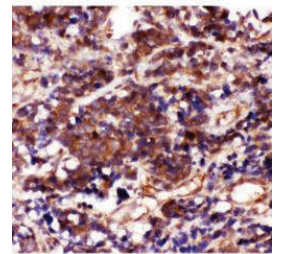
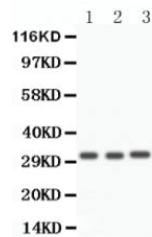
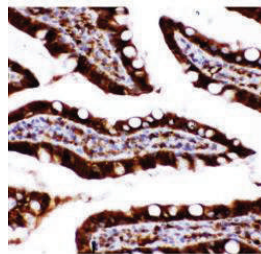
Predicted bind size: 79KD

Observed bind size: 79KD

Caspase-3

Sequential activation of caspases plays a central role in the execution-phase of cell apoptosis. Caspase-3 exists as inactive a proenzyme that undergo proteolytic processing at conserved aspartic residues to produce two subunits, large and small, that dimerize to form the active enzyme. Caspase-3 is the predominant caspase involved in the cleavage of amyloid-beta 4A precursor protein, which creates a positive feedback loop that contributes to the onset of Alzheimer's

Anti-Caspase-3 Antibody



Gene Name	Product Name	Applications
MAPT	Anti-Tau Antibody	WB
CDK5R1	Anti-CDK5R1 Antibody	WB
CDK5	Anti-Cdk5 Antibody	WB
CAPN1	Anti-Calpain 1 Antibody	WB, IHC-P
CASP3	Anti-Caspase-3 Antibody	WB, IHC-P
CASP7	Anti-Caspase-7 Antibody	WB, IHC-P
GAPDH	Anti-GAPDH Antibody	WB, IHC-P, IHC-F, ICC
GRIN1	Anti-NMDAR1 Antibody	WB, IHC-P
GRIN2A	Anti-NMDAR2A Antibody	WB, IHC-P
PPP3CA	Anti-Calcineurin A Antibody	WB
FAS	Human sFAS ELISA Kit	ELISA
FAS	Mouse FAS ELISA Kit	ELISA
ADAM10	Anti-ADAM10 Antibody	WB
ADAM17	Anti-ADAM17 Antibody	WB
APAF1	Anti-APAF1 Antibody	WB, IHC-P
APAF1	Anti-APAF1 Antibody	WB, IHC-P
APBB1	Anti-FE65 Antibody	WB
APH1A	Anti-APH1a Antibody	WB
APOE	Anti-Apolipoprotein E Antibody	WB, IHC-P
APP	Anti-beta Amyloid Antibody	WB, IHC-P
APP	Anti-Amyloid beta precursor protein Antibody	WB, IHC-P
APP	Human APP ELISA Kit	ELISA
APP	Anti-beta-Amyloid Protein Antibody (monoclonal)	IHC-P
ATF6	Anti-ATF6 Antibody	WB, IHC-P
ATF6	Anti-ATF6 Antibody	WP
ATP2A1	Anti-SERCA1 ATPase Antibody	WB, IHC-P
ATP2A1	Anti-ATP2A1 Antibody	WB, IHC-P
ATP2A2	Anti-SERCA2 ATPase Antibody	WB, IHC-P
ATP2A2	Anti-ATP2A2 Antibody	WB, IHC-P

Gene Name	Product Name	Applications
ATP2A3	Anti-ATP2A3 Antibody	WB, IHC-P
ATP5H	Anti-ATP5H Antibody	WB, IHC-P, ICC
ATP5J	Anti-ATP5J Antibody	WB
BID	Anti-Bid Antibody	WB, IHC-P, ICC
BID	Anti-Bid Antibody	WB, IHC-P
CACNA1C	Anti-CACNA1C Antibody	WB
CACNA1D	Anti-CaV1.3 Antibody	WB
CACNA1D	Anti-CaV1.3 Antibody	WB
CAPN1	Anti-Calpain 1 Antibody	WB, IHC-P
CAPN1	Anti-Calpain 1 Antibody	WB, IHC-P, IHC-F, ICC
CASP12	Anti-Caspase-12 Antibody	WB, IHC-P
CASP3	Anti-Caspase-3 Antibody	WB, IHC-P
CASP3	Anti-Caspase-3(P10) Antibody	WB
CASP3	Anti-Caspase-3(P10)	WB, IHC-P, ICC
CASP3	Anti-Caspase-3(P10) Antibody	WB, IHC-P
CASP3	Anti-Caspase 3 Antibody	WB
CASP3	Anti-Caspase-3(P17) Antibody	WB
CASP3	Anti-Caspase-3(P17) Antibody	WB, IHC-P
CASP7	Anti-Caspase-7 Antibody	WB, IHC-P
CASP7	Anti-Caspase-7(P11) Antibody	WB, IHC-P
CASP8	Anti-Caspase-8 Antibody	WB
CASP8	Anti-Caspase-8(P18) Antibody	WB
CASP8	Anti-Caspase-8(P10) Antibody	WB, IHC-P
CASP8	Anti-Caspase-8 Antibody	WB, IHC-P
CASP9	Anti-Caspase-9 Antibody	WB
CASP9	Anti-Caspase 9 Antibody	WB, IHC-P
CDK5	Anti-Cdk5 Antibody	WB
CDK5R1	Anti-CDK5R1 Antibody	WB
CYCS	Anti-Cytochrome C Antibody	WB, IHC-P, ICC

Gene Name	Product Name	Applications
CYCS	Anti-Tau Antibody	WB, IHC-P, IHC-F, ICC
EIF2AK3	Anti-CDK5R1 Antibody	WB, ICC
FADD	Anti-Cdk5 Antibody	WB
FAS	Anti-Calpain 1 Antibody	WB
FAS	Anti-Caspase-3 Antibody	WB, IHC-P
FAS	Anti-Caspase-7 Antibody	WB, IHC-P, ICH-F
FAS	Anti-GAPDH Antibody	ELISA
FAS	Anti-NMDAR1 Antibody	ELISA
GAPDH	Anti-NMDAR2A Antibody	WB
GAPDH	Anti-Calcineurin A Antibody	WB, IHC-P, IHC-F, ICC
GAPDH	Human sFAS ELISA Kit	WB, IHC-P
GRIN1	Mouse FAS ELISA Kit	WB, IHC-P
GRIN2A	Anti-ADAM10 Antibody	WB
GRIN2A	Anti-ADAM17 Antibody	WB, IHC-P
GRIN2A	Anti-APAF1 Antibody	WB, IHC-P
GRIN2B	Anti-APAF1 Antibody	WB
GRIN2B	Anti-FE65 Antibody	WB
GRIN2B	Anti-APH1a Antibody	WB
GRIN2C	Anti-Apolipoprotein E Antibody	WB
HSD17B10	Anti-beta Amyloid Antibody	WB, IHC-P
IL1B	Anti-Amyloid beta precursor protein Antibody	WB, ELISA
IL1B	Human APP ELISA Kit	WB
IL1B	Anti-beta-Amyloid Protein Antibody (monoclonal)	WB
IL1B	Anti-ATF6 Antibody	WB, ELISA
IL1B	Anti-ATF6 Antibody	ELISA
IL1B	Anti-SERCA1 ATPase Antibody	ELISA
IL1B	Anti-ATP2A1 Antibody	ELISA
ITPR1	Anti-SERCA2 ATPase Antibody	WB, IHC-P
ITPR1	Anti-ATP2A2 Antibody	WB, IHC-P

Gene Name	Product Name	Applications
ITPR3	Anti-ITPR3 Antibody	WB, IHC-P
LPL	Anti-Lipoprotein lipase Antibody	WB
LRP1	Anti-LRP1 Antibody	WB
MAPK1	Anti-MAPK1/3 Antibody	WB, IHC-P
MAPK1	Anti-ERK2 Antibody	WB
MAPK1	Anti-ERK2 Antibody	WB
MAPK3	Anti-ERK1 Antibody	WB, IHC-P, ICC
MAPT	Anti-Tau Antibody	WB
MAPT	Anti-Tau Antibody (monoclonal)	WB, IHC-P
MME	Anti-CD10 Antibody	WB, IHC-P
MME	Human CD10/Neprilysin ELISA Kit	ELISA
MME	Mouse Neprilysin/CD10 ELISA Kit	ELISA
NAE1	Anti-APPBP1 Antibody	WB
NCSTN	Anti-NCSTN Antibody	WB
NDUFA1	Anti-NDUFA1 Antibody	WB, IHC-P, IHC-F, ICC
NOS1	Anti-nNOS(neuronal) Antibody	WB, IHC-P
NOS1	Anti-Nitric Oxide Synthase, Brain(1-181) NOS1 Antibody (<i>monoclonal</i>)	WB
PLCB1	Anti-PLCB1 Antibody	WB
PPP3CA	Anti-Calcineurin A Antibody	WB
PPP3R1	Anti-Calcineurin alpha Antibody (monoclonal)	WB, IHC-P
PSEN2	Anti-Presenilin 2 Antibody	WB, IHC-P
SDHA	Anti-SDHA Antibody	WB
SDHA	Anti-SDHA Antibody	WB, IHC-P
SDHA	Anti-SDHA Antibody	WB
SDHB	Anti-SDHB Antibody	WB, IHC-P
SDHC	Anti-SDHC Antibody	WB, IHC-P
TNF	Anti-TNF alpha Antibody	WB
TNF	Anti-TNF alpha Antibody	WB
TNF	Anti-TNF alpha Antibody	WB, IHC-P

Gene Name	Product Name	Applications
TNF	Human TNF alpha ELISA Kit	ELISA
TNF	Rat TNF alpha ELISA Kit	ELISA
TNF	Mouse TNF alpha ELISA Kit	ELISA
TNF	Anti-mouse TNF alpha Antibody	WB, IHC-P, ELISA, Neu, IP
TNFRSF1A	Anti-TNF Receptor I Antibody	WB, IHC-P
TNFRSF1A	Anti-TNFRSF1A Antibody	WB
TNFRSF1A	Human TNFsR I ELISA Kit	ELISA

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