Recombinant Human BACE1, C13&N15-labeled

Cat. No. BACE1-219H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human BACE1 MS Standard Protein, C13 and N15-labeled (BACE1, Heavy Labeled) Thr 22 - Thr 457 (Accession # NP_036236.1) was produced in human 293 cells (HEK293).
Species	Human
Source	HEK293
ProteinLength	22-457 a.a.
Description	Beta-secretase 1 (BACE1) also known as beta-site APP cleaving enzyme 1 (beta-site amyloid precursor protein cleaving enzyme 1), memapsin-2 (membrane-associated aspartic protease 2), and aspartyl protease 2 (ASP2), β-Secretase , and is a member of the peptidase A1 protein family, BACE1 is a type I integral membrane glycoprotein and aspartic protease that is found mainly in the Golgi. BACE1 is an aspartic-acid protease important in the pathogenesis of Alzheimer"s disease, and in the formation of myelin sheaths in peripheral nerve cells.[1] The transmembrane protein contains two active site aspartate residues in its extracellular protein domain and may function as a dimer. This protease is responsible for the proteolytic processing of the amyloid precursor protein (APP). Generation of the 40 or 42 amino acid-long amyloid-β peptides that aggregate in the brain of Alzheimer"s patients requires two sequential cleavages of the APP. Extracellular cleavage of APP by BACE creates a soluble extracellular fragment and a cell membrane-bound fragment referred to as C99. The elevation of BACE1 levels can be induced by amyloid plaques surrounding neurons at

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	early stages of pathology before neuron death occurs, and may drive a positive-feedback loop in AD. [2-3]
Form	Lyophilized from 0.22 μm filtered solution in PBS, pH7.4. Normally Mannitol or Trehalose are added as protectants before lyophilization.
Molecular Mass	BACE1, Heavy Labeled, fused with 6×His tag at the C-terminus, has a calculated MW of 49.2 kDa. The predicted N-terminus is Thr 22. DTT-reduced Protein migrates as 50-65 kDa due to glycosylation.
Endotoxin	Less than 1.0 EU per μg of the BACE1, Heavy Labeled by the LAL method.
Purity	>95% as determined by SDS-PAGE.
Storage	Avoid repeated freeze-thaw cycles.No activity loss was observed after storage at:In lyophilized state for 1 year (4oC-8oC); After reconstitution under sterile conditions for 1 month (4oC-8oC) or 3 months (-20oC to -70oC).

GENE INFORMATION

Gene Name	BACE1 beta-site APP-cleaving enzyme 1 [Homo sapiens]
Official Symbol	BACE1
Synonyms	BACE1; beta-site APP-cleaving enzyme 1; BACE, beta site APP cleaving enzyme; beta-secretase 1; asp 2; memapsin-2; APP beta-secretase; aspartyl protease 2; beta-site APP cleaving enzyme 1; beta-secretase 1 precursor variant 1; transmembrane aspartic proteinase Asp2; membrane-associated aspartic protease 2; beta-site amyloid beta A4 precursor protein-cleaving enzyme; ASP2; BACE; HSPC104; FLJ90568; KIAA1149;

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Gene ID	23621
mRNA Refseq	NM_001207048
Protein Refseq	NP_001193977
MIM	604252
UniProt ID	P56817
Chromosome Location	11q23-q24
Pathway	Alzheimers disease, organism-specific biosystem; Alzheimers disease, conserved biosystem;
Function	aspartic-type endopeptidase activity; beta-aspartyl-peptidase activity; enzyme binding; peptidase activity;

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