Recombinant Human BACE1 protein

Cat. No. BACE1-003H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human BACE1 (Thr22-Thr457) protein carried no tag and was expressed in human 293 cells (HEK293).
Species	Human
Source	HEK293
ProteinLength	Thr22-Thr457
Description	Beta-secretase 1 (BACE1) is 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. 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 early stages of pathology before neuron death occurs, and may drive a positive-

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	feedback loop in AD.
Predicted N Terminal	Thr22
Form	Lyophilized from 0.22 μm filtered solution in 50 mM Tris, 20 mM CaCl2, pH8.0, 10% trehalose.
Molecular Mass	The protein has a calculated MW of 49.0 kDa. The protein migrates as 53-60 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.
Endotoxin	Less than 1.0 EU per μg by the LAL method.
Purity	>98% as determined by SDS-PAGE.
Storage	For long term storage, the product should be stored at lyophilized state at -20 centigrade or lower. Please avoid repeated freeze-thaw cycles. This product is stable after storage at: -20 to -70 centigrade for 12 months in lyophilized state; -70 centigrade for 3 months under sterile conditions after reconstitution.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 ug/ul. Centrifuge the vial at 4℃ before opening to recover the entire contents.

GENE INFORMATION

Gene Name	BACE1
Official Symbol	BACE1
Synonyms	BACE1; beta-site APP-cleaving enzyme 1; BACE, beta site APP cleaving enzyme;

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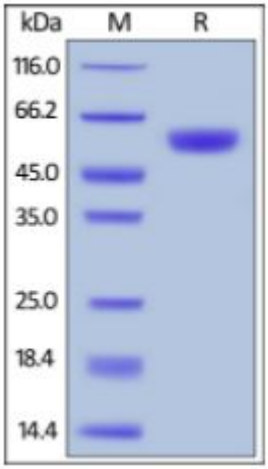
	beta-secretase 1; asp 2; memapsin-2; APP beta-secretase; aspartyl protease 2; beta-site APP cleaving enzyme 1; beta-secretase 1 precursor variant 1; transmembrane aspartic proteinase Asp2; membrane-associated aspartic protease 2; beta-site amyloid beta A4 precursor protein-cleaving enzyme; ASP2; BACE; HSPC104; FLJ90568; KIAA1149
Gene ID	23621
mRNA Refseq	NM_001207048
Protein Refseq	NP_001193977
MIM	604252
UniProt ID	P56817
SDS-PAGE of BACE1-003H	 Human BACE-1, Tag Free on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 98%.

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