

BACE1 active protein

BACE1 Protein, Human, Recombinant

CATALOG #
AAA257824

HOST
HEK293 Cells

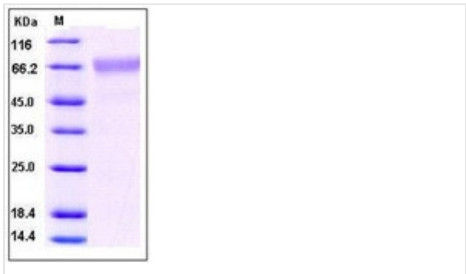
PRODUCT SYNONYMS

BACE1; BACE1 Protein; Human; Recombinant; Human BACE1/ASP2 Protein; ASP2 Protein; BACE Protein; HSPC104 Protein; beta-site APP-cleaving enzyme 1; BACE1 active protein

PRODUCT SPECIFICATIONS

Host	HEK293 Cells
Purity/Purification	>95% as determined by SDS-PAGE
Form/Format	Lyophilized from sterile 50mM Tris, 100mM NaCl, pH8.0. Normally 5%-8% trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hard copy of CoA.
Sequence	Met1-Thr45 7
Source	Human
Endotoxin	<1.0EU per ug of the protein as determined by the LAL method
Predicted N Terminal	Thr 22
Tag	C-cleavage
Protein Construction	The mature form of human BACE1 (NP_036236.1) extracellular domain (Met1-Thr 457) with a quinary-aa peptide (DDDDK) at the C-terminus was expressed and purified.
Reconstitution	A hardcopy of COA with reconstitution instruction is sent along with the products. Please refer to it for detailed information.
Bio Activity	Measured by its ability to cleave a fluorescent peptide substrate Mca-Ser-Glu-Val-Asn-Leu-Asp-Ala-Glu-Phe-Arg-Lys(Dpn)-Arg-Arg-NH ₂ . Cleavage of ES004 can be measured using excitation and emission wavelength of 320 and 405nm, respectively. The specific activity is >3.5pmoles/min/ug.
Preparation and Storage	Samples are stable for up to twelve months from date of receipt at -70 degree C. Store it under sterile conditions at -20 degree C to -80 degree C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice.

IMAGES



SDS-PAGE

ADDITIONAL INFORMATION

Related Product Information for BACE1 active protein	Background: Beta-site APP-cleaving enzyme 1 (BACE1) is an aspartic-acid protease important in the formation of myelin sheaths in peripheral nerve cells. In the brain, This protein is expressed highly in the substantia nigra, locus coruleus and medulla oblongata. Strong BACE1 expression has also been described in pancreatic tissue. BACE1 has a pivotal role in the pathogenesis of Alzheimer's disease. In Alzheimer's disease patients, BACE1 levels were elevated although mRNA levels were not changed. It has been found that BACE1 gene expression is controlled by a TATA-less promoter. The translational repression as a new mechanism controlling its expression. And the low concentrations of Ca(2+)(microM range) significantly increased the proteolytic activity of BACE1. Furthermore, BACE1 protein is ubiquitinated, and the degradation of BACE1 proteins and amyloid precursor protein processing are regulated by the ubiquitin-proteasome pathway. It has also been identified as the rate limiting enzyme for amyloid-beta-peptide (Aβeta) production.
References	Christensen MA, et al. (2004) Transcriptional regulation of BACE1, the beta-amyloid precursor protein beta-secretase, by Sp1. Mol Cell Biol. 24(2):865-74.Stockley JH, et al. (2007) The proteins BACE1 and BACE2 and beta-secretase activity in normal and Alzheimer's disease brain. Biochem Soc Trans. 35(Pt 3): 574-6.Savonenko AV, et al. (2008) Alteration of BACE1-dependent NRG1/ErbB4 signaling and schizophrenia-like phenotypes in BACE1-null mice. Proc Natl Acad Sci U S A. 105(14): 5585-90.Hayley M, et al. (2009) Calcium enhances the proteolytic activity of BACE1: An in vitro biophysical and biochemical characterization of the BACE1-calcium interaction. Biochim Biophys Acta. 1788(9): 1933-8.

NCBI AND UNIPROT INFORMATION

NCBI GI #	6912266
NCBI GeneID	23621
NCBI Accession #	NP_036236.1
NCBI GenBank Nucleotide #	NM_012104.4
UniProt Accession #	P56817; Q9BYB9; Q9BYC0; Q9BYC1; Q9UJT5; Q9ULS1; A0M8W7; B0YIU9; E9PE65; H7BXJ9
Molecular Weight	42,107 Da
NCBI Official Full Name	beta-secretase 1 isoform A preproprotein
NCBI Official Synonym Full Names	beta-site APP-cleaving enzyme 1
NCBI Official Symbol	BACE1
NCBI Official Synonym Symbols	ASP2; BACE; HSPC104
NCBI Protein Information	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
UniProt Protein Name	Beta-secretase 1
UniProt Gene Name	BACE1
UniProt Synonym Gene Names	BACE; KIAA1149; ASP2; Asp 2

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com

Online datasheet: <https://www.aaabiotech.com/hek293-active-protein/bace1/257824>