Recombinant Mouse BACE1/ASP2 Protein (His Tag)

Catalog No. PKSM040926

Note: Centrifuge before opening to ensure complete recovery of vial contents.

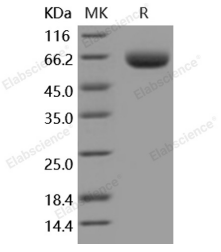
Description

Synonyms	C76936
Species	Mouse
Expression Host	HEK293 Cells
Sequence	Met 1-Thr 457
Accession	NM_011792.5
Calculated Molecular Weight	49.8 kDa
Observed molecular weight	60-65 kDa
Tag	C-His
Bioactivity	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-NH2 (Catalog# ES004, R&D Systems). Cleavage of ES004 can be measured using excitation and emission wavelengths of 320 and 405 nm, respectively. The specific activity is > 2 pmoles/min/μg.

Properties

Purity	> 97 % as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per μg of the protein as determined by the LAL method.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80℃. Reconstituted protein solution can be stored at 4-8℃ for 2-7 days. Aliquots of reconstituted samples are stable at < -20℃ for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile PBS, pH 7.4 Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Data



> 97 % as determined by reducing SDS-PAGE.

Toll-free: 1-888-852-8623 Tel: 1-832-243-6086 Fax: 1-832-243-6017
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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 (Abeta) production.

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