

Human BACE1 / ASP2 Protein

Catalog Number: 10064-HCCH



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

BACE1, ASP2, BACE, HSPC104, FLJ90568, KIAA1149

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.

Source: Human

Expression Host: Human Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

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-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 >0.5 pmoles/min/μg.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Thr 22

Molecular Mass:

The recombinant human BACE1 consists of 442 amino acids and has a calculated molecular mass of 49 kDa. As a result of glycosylation, the rhBACE1 migrates as an approximately 65 kDa protein in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 50mM Tris, 100mM NaCl, pH 8.0

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

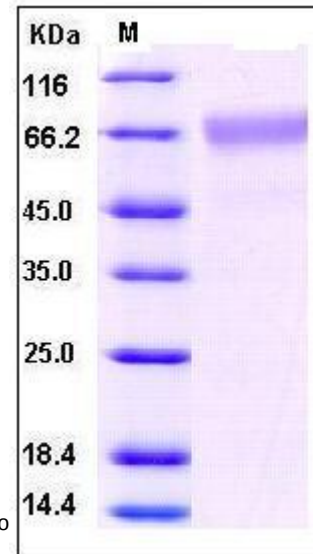
Usage Guide

Storage:

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitution

re products.

Protein Description

As 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. This protease is responsible for the proteolytic processing of the amyloid precursor protein (APP). APP is cleaved to generate a 40 or 42 amino acid-long amyloid-β peptide, which is the major constituent of amyloid plaques in the brains of individuals afflicted with Alzheimer's disease (AD), and accordingly, BACE1 is implicated in the onset and progression of AD. 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-feedback loop in AD. Different isoforms are derived from four transcript variants.

References

1. Vassar, R. et al., 1999, Science. 286: 735-741.
2. Yan, R. et al., 1999, Nature. 402: 533-537.
3. Johnston, JA. et al., 2005, Biochem. Soc. Trans. Nov. 33:1096-1100.
4. Zacchetti, D, et al., 2007, Neurodegener Dis. 4: 117-126.
5. Zhao, J. et al., 2007, J. Neurosci. 27: 3639-3649.

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Fax :+86-10-51029969 • Tel:+86-400-890-9989 • <http://www.sinobiological.com>