BACE2 Protein, Mouse (HEK293, His)

Cat. No.:	HY-P75588
Synonyms:	Beta-secretase 2; Aspartyl protease 1; ASP1; Memapsin-1; Bace2
Species:	Mouse
Source:	HEK293
Accession:	Q9JL18 (A20-P462)
Gene ID:	56175
Molecular Weight:	Approximately 55 kDa

PROPERTIES

AA Sequence

A V P A L A P A P F T L P L Q V A G A T N H R A S A V P G L G T P E L P R A D G
L A L A L E P V R A T A N F L A M V D N L Q G D S G R G Y Y L E M L I G T P P Q
K V Q I L V D T G S S N F A V A G A P H S Y I D T Y F D S E S S S T Y H S K G F
D V T V K Y T Q G S W T G F V G E D L V T I P K G F N S S F L V N I A T I F E S
E N F F L P G I K W N G I L G L A Y A A L A K P S S S L E T F F D S L V A Q A K
I P D I F S M Q M C G A G L P V A G S G T N G G S L V L G G I E P S L Y K G D I
W Y T P I K E E W Y Y Q I E I L K L E I G G Q N L N L D C R E Y N A D K A I V D
S G T T L L R L P Q K V F D A V V E A V A R T S L I P E F S D G F W T G A Q L A
C W T N S E T P W A Y F P K I S I Y L R D E N A S R S F R I T I L P Q L Y I Q P
M M G A G F N Y E C Y R F G I S S S T N A L V I G A T V M E G F Y V V F D R A Q
R R V G F A V S P C A E I E G T T V S E I S G P F S T E D I A S N C V P A Q A L
N E P

Biological Activity	Measured by its ability to cleave a fluorogenic peptide substrate Mca-KPLGL-Dpa-AR-NH2. The specific activity is 2187.098 pmol/min/μg, as measured under the described conditions.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	The BACE2 protein assumes a critical role in the proteolytic processing of the amyloid precursor protein (APP), cleaving it between residues 690 and 691. This cleavage event results in the generation and extracellular release of beta-cleaved soluble APP and a corresponding cell-associated C-terminal fragment, later released by gamma-secretase. Additionally, BACE2 has been shown to cleave APP between residues 671 and 672. Beyond its involvement with APP, BACE2 plays a pivotal role in the proteolytic shedding of PMEL during early stages of melanosome biogenesis, cleaving PMEL within the M-beta fragment to release the amyloidogenic PMEL luminal fragment comprising M-alpha and a small portion of M-beta N-terminus. This cleavage step is crucial for the subsequent processing and assembly of PMEL fibrils into amyloid sheets. Furthermore, BACE2 is responsible for the proteolytic processing of CLTRN in pancreatic beta cells, highlighting its diverse functions in cellular processes and contributing to our understanding of its significance in various physiological contexts.

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