

HEXB/Hexosaminidase B Protein, Mouse (HEK293, His)

Cat. No.:	HY-P75808
Synonyms:	Beta-hexosaminidase subunit beta; HCC-7; HEXB
Species:	Mouse
Source:	HEK293
Accession:	P20060 (Q32-I536)
Gene ID:	15212
Molecular Weight:	Approximately 59.4 kDa

PROPERTIES

AA Sequence	<pre> Q P A L W P F P R S V Q M F P R L L Y I S A E D F S I D H S P N S T A G P S C S L L Q E A F R R Y Y N Y V F G F Y K R H H G P A R F R A E P Q L Q K L L V S I T L E S E C E S F P S L S S D E T Y S L L V Q E P V A V L K A N S V W G A L R G L E T F S Q L V Y Q D S F G T F T I N E S S I A D S P R F P H R G I L I D T S R H F L P V K T I L K T L D A M A F N K F N V L H W H I V D D Q S F P Y Q S T T F P E L S N K G S Y S L S H V Y T P N D V R M V L E Y A R L R G I R V I P E F D T P G H T Q S W G K G Q K N L L T P C Y N Q K T K T Q V F G P V D P T V N T T Y A F F N T F F K E I S S V F P D Q F I H L G G D E V E F Q C W A S N P N I Q G F M K R K G F G S D F R R L E S F Y I K K I L E I I S S L K K N S I V W Q E V F D D K V E L Q P G T V V E V W K S E H Y S Y E L K Q V T G S G F P A I L S A P W Y L D L I S Y G Q D W K N Y Y K V E P L N F E G S E K Q K Q L V I G G E A C L W G E F V D A T N L T P R L W P R A S A V G E R L W S P K T V T D L E N A Y K R L A V H R C R M V S R G I A A Q P L Y T G Y C N Y E N K I </pre>
Biological Activity	Measured by its ability to hydrolyze 4-methylumbelliferyl-N-acetyl-beta-D-glucosaminide (4-MU-GlcNAc). Read at excitation and emission wavelengths of 365 nm and 445 nm (top read). The specific activity is 3033.81 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.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH ₂ O. 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

HEXB, or Hexosaminidase B protein, plays a crucial role in hydrolyzing the non-reducing end N-acetyl-D-hexosamine and/or sulfated N-acetyl-D-hexosamine found in glycoconjugates. This includes oligosaccharide moieties from proteins, neutral glycolipids, and certain mucopolysaccharides. Interestingly, isozyme B exhibits selective substrate specificity, efficiently hydrolyzing neutral oligosaccharides while not acting on other substrates. It is important to note that only isozyme A is responsible for the degradation of GM2 gangliosides in the presence of GM2A. Additionally, during fertilization, HEXB contributes to the zona block to polyspermy, being present in the cortical granules of non-activated oocytes. Upon oocyte activation, HEXB is exocytosed during the cortical reaction, effectively inactivating the sperm galactosyltransferase-binding site. This molecular mechanism accounts for the block in sperm binding to the zona pellucida, as reported in studies.

Caution: Product has not been fully validated for medical applications. For research use only.

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