FAM20B Protein, Human (HEK293, Fc)

Cat. No.:	HY-P76326
Synonyms:	Glycosaminoglycan xylosylkinase; Xylose kinase; KIAA0475
Species:	Human
Source:	HEK293
Accession:	O75063/NP_055679.1 (S31-L409)
Gene ID:	9917
Molecular Weight:	Approximately 75-80 kDa due to the glycosylation

PROPERTIES

AA Sequence	S A A N R E D Q R A F H R M M T G L R V E L A P K L D H T L Q S P W E I A A Q W V V P R E V Y P E E T P E L G A V M H A M A T K K I I K A D V G Y K G T Q L K A L L I L E G G Q K V V F K P K R Y S R D H V V E G E P Y A G Y D R H N A E V A A F H L D R I L G F H R A P L V V G R F V N L R T E I K P V A T E Q L L S T F L T V G N N T C F Y G K C Y Y C R E T E P A C A D G D I M E G S V T L W L P D V W P L Q K H R H P W G R T Y R E G K L A R W E Y D E S Y C D A V K K T S P Y D S G P R L L D I I D T A V F D Y L I G N A D R H H Y E S F Q D D E G A S M L I L L D N A K S F G N P S L D E R S I L A P L Y Q C C I I R V S T W N R L N Y L K N G V L K S A L K S A M A H D P I S P V L S D P H L D A V D Q R L L S V L A T V K Q C T D Q F G M D T V L V E D R M P L S H L
Biological Activity	Measured by its ability to enhance survival of ATDC5 mouse chondrogenic cells. The ED_{50} for this effect is 1.464 μg/mL. Corresponding to a specific activity is 683.06 unit/mg.
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 FAM20B protein assumes a pivotal role in the regulation of mature glycosaminoglycan (GAG) chains by catalyzing the 2-O-phosphorylation of xylose within the glycosaminoglycan-protein linkage region of proteoglycans. This process is integral to the synthesis of sulfated GAGs, including heparan sulfate and chondroitin sulfate, on the common GAG-protein linkage region (GlcUAbeta1-3Galbeta1-3Galbeta1-4Xylbeta1-O-Ser) of core proteins. The stepwise addition of monosaccharide residues by specific glycosyltransferases forms this linkage region, where xylose 2-O-phosphorylation plays a regulatory role in the catalytic activity of B3GAT3 (GlcAT-I). B3GAT3 completes the precursor tetrasaccharide of GAG-protein linkage regions, serving as a foundation for the subsequent synthesis of the repeating disaccharide region. FAM20B's involvement in xylose 2-O-phosphorylation highlights its crucial contribution to the precise regulation of GAG chain assembly and the intricate orchestration of glycosaminoglycan structures.

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