

TGM2/Transglutaminase 2 Protein, Mouse (HEK293, His)

Cat. No.:	HY-P71132
Synonyms:	Protein-glutamine gamma-glutamyltransferase 2; Tgm2; Tissue transglutaminase; Transglutaminase C; TGase-2
Species:	Mouse
Source:	HEK293
Accession:	P21981 (A2-A686)
Gene ID:	21817
Molecular Weight:	70-90 kDa

PROPERTIES

AA Sequence

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

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Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Solution.
Formulation	Supplied as a 0.2 µm filtered solution of 20 mM Tris-HCl, 150 mM NaCl, 20% Glycerol, pH 7.5.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.

Shipping

Shipping with dry ice.

DESCRIPTION**Background**

TGM2/Transglutaminase 2 protein, a calcium-dependent acyltransferase, catalyzes the formation of covalent bonds between peptide-bound glutamine and various primary amines, leading to the cross-linking or amination of proteins. Involved in diverse biological processes such as bone development, angiogenesis, wound healing, cellular differentiation, chromatin modification, and apoptosis, TGM2 acts as a protein-glutamine gamma-glutamyltransferase. It mediates the cross-linking of proteins, including ACO2, HSPB6, FN1, HMGB1, RAP1GDS1, SLC25A4/ANT1, SPP1, and WDR54. The protein cross-linking activity is inhibited under physiological conditions by GTP, and this inhibition is relieved by Ca(2+) in response to various stresses. In addition to its role in apoptosis by promoting cytoskeletal protein cross-linking and mediating the formation of extracellular matrix scaffolds, TGM2 can use monoamine substrates to catalyze diverse protein post-translational modifications. It plays a crucial role in chromatin organization by mediating serotonylation and dopaminylation of histone H3, contributing to neurotransmission-independent functions in ventral tegmental area (VTA) neurons. Furthermore, TGM2 acts as a signal transducer in alpha-1 adrenergic receptor-mediated stimulation of phospholipase C-delta (PLCD) activity, highlighting its involvement in signaling pathways beyond its acyltransferase activity.

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

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