Human TGM2 / Transglutaminase 2 Protein (His Tag)

Catalog Number: **11095-H07B**

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Biological Solution Specialist

General Information

Gene Name Synonym:

G-ALPHA-h; GNAH; HEL-S-45; TG2; TGC; G[a]h; TG2; TGase2; tTG; tTGas

Protein Construction:

A DNA sequence encoding the human TGM2 (NP_004604.2) (Met 1-Ala 687) was expressed, with a polyhistidine tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 97 % as determined by SDS-PAGE

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 ℃

Predicted N terminal: His

Molecular Mass:

The recombinant human TGM2 consists of 705 amino acids and has a predicted molecular mass of 79.6 kDa. It migrates as an approximately 80 kDa band in SDS-PAGE under reducing conditions as estimated.

Formulation:

Lyophilized from sterile 50mM Tris, 100mM NaCl, 2mM DTT, 10% glycerol, pH 8.0

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 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:

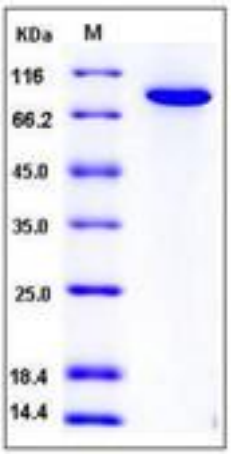
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Protein-glutamine gamma-glutamyltransferase 2, also known as Tissue transglutaminase, Transglutaminase C, Transglutaminase-2, and TGM2, is a member of the transglutaminase superfamily. TGM2 plays a role in cell growth and survival through the anti-apoptosis signaling pathway. It is a calcium-dependent acyltransferase which also undergoes a GTP-binding/GTPase cycle even though it lacks any obvious sequence similarity with canonical GTP-binding (G) proteins. TGM2 is a multi-functional protein which catalyzes transamidation reactions or acts as a G-protein in intracellular signalling. As an enzyme which is responsible for the majority of transglutaminase (TG) activity in the brain, TGM2 is likely to play a modulatory role in nervous system development and has regulatory effect on neuronal cell death as well. Most importantly, numerous studies have presented data demonstrating that dysregulation of TGM2 may contribute to the pathogenesis of many neurodegenerative disorders, including Huntington's disease, Alzheimer's disease, Parkinson's disease and amyotrophic lateral sclerosis as well as nervous system injuries.

References

1.Ruan Q, *et al.* (2007) Transglutaminase 2 in neurodegenerative disorders. Front Biosci. 12: 891-904.
2.Ai L, *et al.* (2008) The transglutaminase 2 gene (TGM2), a potential molecular marker for chemotherapeutic drug sensitivity, is epigenetically silenced in breast cancer. Carcinogenesis. 29(3): 510-8.
3.Filiano AJ, *et al.* (2010) Transglutaminase 2 protects against ischemic stroke. Neurobiol Dis. 39(3): 334-43.