

Product Name: TGM2 (5V19) Rabbit Monoclonal Antibody
Catalog #: AMRe18863

Summary

Production Name	TGM2 (5V19) Rabbit Monoclonal Antibody
Description	Rabbit Monoclonal Antibody
Host	Rabbit
Application	WB
Reactivity	Human,Mouse

Performance

Conjugation	Unconjugated
Modification	Unmodified
Isotype	IgG
Clonality	Monoclonal
Form	Liquid
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
Buffer	Supplied in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% New type preservative N and 0.05% BSA.
Purification	Affinity purification

Immunogen

Gene Name	TGM2 {ECO:0000303 PubMed:17939176, ECO:0000312 HGNC:HGNC:11778}
Alternative Names	TGM2; Tissue transglutaminase; Transglutaminase C; TG(C); TGC; TGase C; ransglutaminase H; TGase H; Transglutaminase-2; TGase-2;
Gene ID	7052.0
SwissProt ID	P21980.A synthetic peptide of human Transglutaminase 2

Application

Dilution Ratio	WB: 1:2000-1:10000
Molecular Weight	77kDa

Background

Catalyzes the cross-linking of proteins and the conjugation of polyamines to proteins. Calcium-dependent acyltransferase that catalyzes the formation of covalent bonds between peptide-bound glutamine and various primary amines, such as gamma-amino group of peptide-bound lysine, or mono- and polyamines, thereby producing cross-linked or aminated proteins, respectively (PubMed: [9252372](http://www.uniprot.org/citations/9252372)), PubMed: [23941696](http://www.uniprot.org/citations/23941696), PubMed: [31991788](http://www.uniprot.org/citations/31991788)). Involved in many biological processes, such as bone development, angiogenesis, wound healing, cellular differentiation, chromatin modification and apoptosis (PubMed: [1683874](http://www.uniprot.org/citations/1683874), PubMed: [7935379](http://www.uniprot.org/citations/7935379), PubMed: [9252372](http://www.uniprot.org/citations/9252372), PubMed: [27270573](http://www.uniprot.org/citations/27270573)). Acts as a protein-glutamine gamma-glutamyltransferase by mediating the cross-linking of proteins, such as ACO2, HSPB6, FN1, HMGB1, RAP1GDS1, SLC25A4/ANT1, SPP1 and WDR54 (PubMed: [23941696](http://www.uniprot.org/citations/23941696), PubMed: [24349085](http://www.uniprot.org/citations/24349085), PubMed: [29618516](http://www.uniprot.org/citations/29618516), PubMed: [30458214](http://www.uniprot.org/citations/30458214)). Under physiological conditions, the protein cross-linking activity is inhibited by GTP; inhibition is relieved by Ca(2+) in response to various stresses (PubMed: [7649299](http://www.uniprot.org/citations/7649299), PubMed: [7592956](http://www.uniprot.org/citations/7592956), PubMed: [18092889](http://www.uniprot.org/citations/18092889)). When secreted, catalyzes cross-linking of proteins of the extracellular matrix, such as FN1 and SPP1 resulting in the formation of scaffolds (PubMed: [12506096](http://www.uniprot.org/citations/12506096)). Plays a key role during apoptosis, both by (1) promoting the cross-linking of cytoskeletal proteins resulting in condensation of the cytoplasm, and by (2) mediating cross-linking proteins of the extracellular matrix, resulting in the irreversible formation of scaffolds that stabilize the integrity of the dying cells before their clearance by phagocytosis, thereby preventing the leakage of harmful intracellular components (PubMed: [7935379](http://www.uniprot.org/citations/7935379), PubMed: [9252372](http://www.uniprot.org/citations/9252372)). In addition to protein cross-linking, can use different monoamine substrates to catalyze a vast array of protein post-translational modifications: mediates aminylation of serotonin, dopamine, noradrenaline or histamine into glutamine residues of target proteins to generate protein serotonylation, dopaminylation, noradrenalinylation or histaminylation, respectively (PubMed: [23797785](http://www.uniprot.org/citations/23797785), PubMed: [30867594](http://www.uniprot.org/citations/30867594)). Mediates protein serotonylation of small GTPases during activation and aggregation of platelets, leading to constitutive activation of these GTPases (By

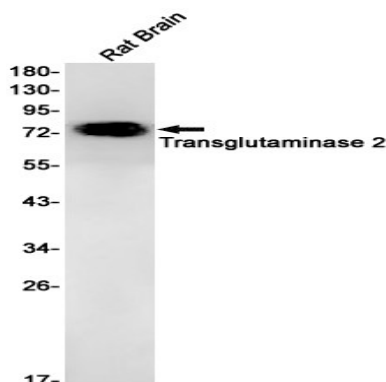
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similarity). Plays a key role in chromatin organization by mediating serotonylation and dopaminylation of histone H3 (PubMed: 30867594, PubMed: 32273471). Catalyzes serotonylation of 'Gln-5' of histone H3 (H3Q5ser) during serotonergic neuron differentiation, thereby facilitating transcription (PubMed: 30867594). Acts as a mediator of neurotransmission-independent role of nuclear dopamine in ventral tegmental area (VTA) neurons: catalyzes dopaminylation of 'Gln- 5' of histone H3 (H3Q5dop), thereby regulating relapse-related transcriptional plasticity in the reward system (PubMed: 32273471). Regulates vein remodeling by mediating serotonylation and subsequent inactivation of ATP2A2/SERCA2 (By similarity). Also acts as a protein deamidase by mediating the side chain deamidation of specific glutamine residues of proteins to glutamate (PubMed: 9623982, PubMed: 20547769). Catalyzes specific deamidation of protein gliadin, a component of wheat gluten in the diet (PubMed: 9623982). May also act as an isopeptidase cleaving the previously formed cross-links (PubMed: 26250429, PubMed: 27131890). Also able to participate in signaling pathways independently of its acyltransferase activity: acts as a signal transducer in alpha-1 adrenergic receptor-mediated stimulation of phospholipase C-delta (PLCD) activity and is required for coupling alpha-1 adrenergic agonists to the stimulation of phosphoinositide lipid metabolism (PubMed: 8943303).

Research Area

Image Data



Western blot detection of Transglutaminase 2 in Rat Brain lysates using Transglutaminase 2 antibody(1:1000 diluted).



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Note

For research use only.