

Store at -20C
#3557**TGM2 (D11A6) XP[®] Rabbit mAb**

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IHC-P	H M R Mk	Endogenous	78	Rabbit IgG	#P21980	7052

Product Usage Information**Application**

Western Blotting
Immunohistochemistry (Paraffin)

Dilution

1:1000
1:100

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #56184.

Specificity/Sensitivity

TGM2 (D11A6) XP[®] Rabbit mAb detects endogenous levels of total TGM2 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Lys598 of human TGM2.

Background

Transglutaminase 2 (TGM2) is a calcium-dependent enzyme that cross-links both cytosolic and extracellular matrix proteins by catalyzing the formation of bonds between lysine and glutamine residues (1). This bifunctional enzyme also has intrinsic GTPase activity, and it has been suggested that regulation of the transamidase activity might be regulated through a G-protein coupled receptor-signaling pathway (2). In cross-linking peptides, TGM2 helps to regulate cytoskeletal structure, cell migration, apoptosis and cell-matrix adhesion. In addition, the enzyme plays an important role in wound healing and the immune response (3). TGM2 has exhibited kinase activity *in vitro*, with insulin-like growth factor-binding protein-3 (IGFBP-3) as one possible substrate (4). This widely expressed protein is localized to the cytosol and nucleus, but has also been isolated from the cell surface and extracellular matrix (reviewed in 5). Because of its interaction with a number of different substrates, and its role in the response to injury, TGM2 has been associated with the pathology of a number of human disorders. It has long been recognized as the major autoantigen in celiac disease (6); altered TGM2 expression or activity may be associated with Alzheimer disease, Huntington disease, arteriosclerosis, diabetes, and numerous forms of cancer (reviewed in 7).

Background References

1. Griffin, M. et al. (2002) *Biochem J* 368, 377-96.
2. Jeon, J.H. et al. (2002) *Biochem Biophys Res Commun* 294, 818-22.
3. Fesus, L. and Piacentini, M. (2002) *Trends Biochem Sci* 27, 534-9.
4. Mishra, S. and Murphy, L.J. (2004) *J Biol Chem* 279, 23863-8.
5. Robinson, N.J. et al. (2007) *Biol Reprod* 77, 648-57.
6. Dieterich, W. et al. (1997) *Nat Med* 3, 797-801.
7. Facchiano, F. et al. (2006) *Front Biosci* 11, 1758-73.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IHC-P:** Immunohistochemistry (Paraffin)

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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