

#3557 Store at -20°C

TGM2 (D11A6) XP™ Rabbit mAb



100 µl
 (10 western blots)

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rev. 02/22/10

This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IHC-P, IF-IC Endogenous	H, M, R, Mk	78 kDa	Rabbit IgG**

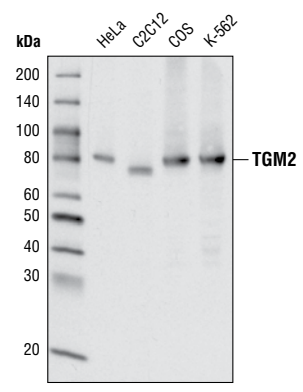
Background: Transglutaminase 2 (TGM2) is a calcium-dependent enzyme that cross-links both cytosolic and extracellular matrix proteins by catalyzing the formation of bonds between lysine and glutamine residues (1). This bifunctional enzyme also has intrinsic GTPase activity, and it has been suggested 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).

Specificity/Sensitivity: TGM2 (D11A6) XP™ Rabbit mAb detects endogenous levels of total TGM2 protein.

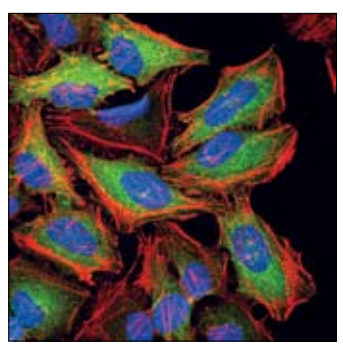
Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Lys598 of human TGM2.

Background References:

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



Western blot analysis of extracts from various cell lines using TGM2 (D11A6) XP™ Rabbit mAb.



Confocal immunofluorescent analysis of HeLa cells using TGM2 (D11A6) XP™ Rabbit mAb (green). Actin filaments have been labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Entrez-Gene ID #7052
Swiss-Prot Acc. #P21980

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.

*Species cross-reactivity is determined by western blot.

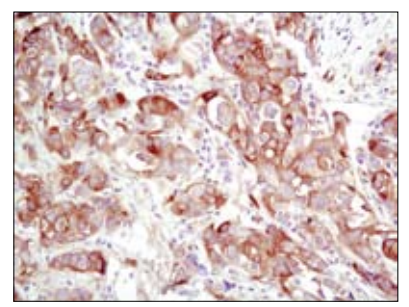
**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

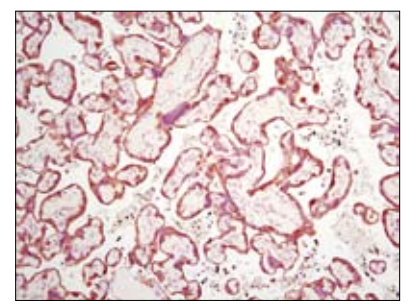
Western blotting	1:1000
Immunohistochemistry (Paraffin)	1:50
Unmasking buffer:	Citrate
Antibody diluent:	SignalStain® Antibody Diluent #8112
Immunofluorescence (IF-IC)	1:100

For application specific protocols please see the web page for this product at www.cellsignaling.com.

Please visit www.cellsignaling.com for a complete listing of recommended companion products.



Immunohistochemical analysis of paraffin-embedded human breast carcinoma using TGM2 (D11A6) XP™ Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded human placenta using TGM2 (D11A6) XP™ Rabbit mAb.

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

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.