

AM10189PU-N**Monoclonal Antibody to Glutamyl Lysine gamma (Isopeptide) - Purified**

Quantity:	0.1 mg
Background:	1 mg/ml
Host / Isotype:	Mouse / IgM
Recommended Isotype Controls:	SM13P
Clone:	81D4
Immunogen:	Ne-(γ -L-glutamyl)-L-lysine isopeptide
Format:	State: Lyophilized purified powder Purification: Affinity Chromatography on Protein A Buffer System: 20mM PO ₄ , 1M NaCl, 2% Sucrose Preservatives: None Reconstitution: Restore in distilled water.
Applications:	ELISA. Immunofluorescence. Immunohistochemistry: 1/50-1/800. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
Specificity:	Reacts with Ne (g-L-glutamyl)-L-lysine. Cross reacts in ELISA with N1,N4 bis (gPoly L-glutamyl) Putrescine and N1,N8 bis (gPoly L-glutamyl) Spermidine. No cross reaction with: - protein bound Ne acetyl lysine - protein bound N1 or N4 mono (gPoly L-glutamyl) Putrescine - protein bound N1 mono (gPoly L-glutamyl) Spermidine - protein bound Ne (g-L-glutamyl) lysine having a free alpha amine either on its glutamyl or lysyl moieties. The ability of this antibody to fix complement is unknown.
Storage:	Store lyophilized at 2-8°C for 6 months or at -20°C long term. After reconstitution store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C long term. Avoid repeated freezing and thawing. Shelf life: one year from despatch.
General Readings:	1. Nadalutti CA, Korponay-Szabo IR, Kaukinen K, Griffin M, Mäki M, Lindfors K. Celiac disease patient IgA antibodies induce endothelial adhesion and cell polarization defects via extracellular transglutaminase 2. Cell Mol Life Sci. 2014 Apr;71(7):1315-26. doi: 10.1007/s00018-013-1455-5. Epub 2013 Aug 28. PubMed PMID: 23982754. 2. de Jager M, van der Wildt B, Schul E, Bol JG, van Duinen SG, Drukarch B, Wilhelmus MM. Tissue transglutaminase colocalizes with extracellular matrix proteins in cerebral amyloid angiopathy. Neurobiol Aging. 2012 Oct 30.

3. Shaik KS et al. δ -Aminolevulinic synthase is required for apical transcellular barrier formation in the skin of the *Drosophila* larva. *Eur J Cell Biol.* 2012 Jan 29.
4. Elli L, Ciulla MM, Busca G, Roncoroni L, Maioli C, Ferrero S, et al. Beneficial effects of treatment with transglutaminase inhibitor cystamine on the severity of inflammation in a rat model of inflammatory bowel disease. *Lab Invest.* 2011 Mar;91(3):452-61. doi: 10.1038/labinvest.2010.186. Epub 2010 Nov 1. PubMed PMID: 21042292.
5. Thomas V et al. Definition of the fine specificity of the monoclonal antibody 81D4: its reactivity with lysine and polyamine isopeptide cross-links. *J Immunol Methods.* 2004 Sep;292(1-2):83-95.
6. Johnson GV, LeShoure R Jr. Immunoblot analysis reveals that isopeptide antibodies do not specifically recognize the epsilon-(gamma-glutamyl)lysine bonds formed by transglutaminase activity. *J Neurosci Methods.* 2004 Apr 30;134(2):151-8.
7. Kaartinen MT, El-Maadawy S, Räsänen NH, McKee MD. Tissue transglutaminase and its substrates in bone. *J Bone Miner Res.* 2002 Dec;17(12):2161-73. PubMed PMID: 12469910.
8. Sárvári M et al. Competitive enzyme-linked immunosorbent assay for N epsilon gamma-glutamyl lysine. *Anal Biochem.* 2002 Dec 15;311(2):187-90.
9. el Alaoui S et al. Transglutaminase activity and N epsilon (gamma glutamyl) lysine isopeptide levels during cell growth: an enzymic and immunological study. *Int J Cancer.* 1991 May 10;48(2):221-6.
10. Roch AM, Noel P, el Alaoui S, Charlot C, Quash G. Differential expression of isopeptide bonds N epsilon (gamma-glutamyl) lysine in benign and malignant human breast lesions: an immunohistochemical study. *Int J Cancer.* 1991 May 10;48(2):215-20. PubMed PMID: 1673451.
11. Zhang J et al. Tissue Transglutaminase and Its Product Isopeptide Are Increased in Alzheimer's Disease and APP^{swE}/PS1^{dE9} Double Transgenic Mice Brains. *Mol Neurobiol.* 2015 Sep 19.
12. de Jager M et al. Tissue transglutaminase-catalysed cross-linking induces Apolipoprotein E multimers inhibiting Apolipoprotein E's protective effects towards amyloid-beta-induced toxicity. *J Neurochem.* 2015 Jun 19.
13. Stepan J et al. Exercise, vascular stiffness, and tissue transglutaminase. *J Am Heart Assoc.* 2014 Apr 10;3(2):e000599.
14. Shrestha B et al. Upregulation of transglutaminase and ϵ (γ -glutamyl) lysine in the Fisher-Lewis rat model of chronic allograft nephropathy. 2014 May
15. Nadalutti CA et al. Celiac disease patient IgA antibodies induce endothelial adhesion and cell polarization defects via extracellular transglutaminase 2. *Cell Mol Life Sci.* 2013 Aug 28.
16. de Jager M, van der Wildt B, Schul E, Bol JG, van Duinen SG, Drukarch B, Wilhelmus MM. Tissue transglutaminase colocalizes with extracellular matrix proteins in cerebral amyloid angiopathy. *Neurobiol Aging.* 2012 Oct 30.
17. Shaik KS et al. δ -Aminolevulinic synthase is required for apical transcellular barrier formation in the skin of the *Drosophila* larva. *Eur J Cell Biol.* 2012 Jan 29.
18. Elli L et al. Beneficial effects of treatment with transglutaminase inhibitor cystamine on the severity of inflammation in a rat model of inflammatory bowel disease. *Lab Invest.* 2011 Mar;91(3):452-61.

Thomas V et al. Definition of the fine specificity of the monoclonal antibody 81D4: its reactivity with lysine and polyamine isopeptide cross-links. *J Immunol Methods*. 2004 Sep;292(1-2):83-95.

19. Johnson GV, LeShoure R Jr. Immunoblot analysis reveals that isopeptide antibodies do not specifically recognize the epsilon-(gamma-glutamyl)lysine bonds formed by transglutaminase activity. *J Neurosci Methods*. 2004 Apr 30;134(2):151-8.

Kaartinen MT et al. Tissue transglutaminase and its substrates in bone. *J Bone Miner Res*. 2002 Dec;17(12):2161-73.

Pictures:

Localisation on Ne (g-glutamyl) lysine bounds on sections of Skin.

