Human Transglutaminase 3/TGM3 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG

Catalog Number: AF4604

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Transglutaminase 3/TGM3 in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 5% cross-reactivity with recombinant human (rh) TGM2, rhTGM4, and rhTGM7 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	*S. frugiperda* insect ovarian cell line Sf 21-derived recombinant human Transglutaminase 3/TGM3 Ala2-Glu693 Accession # NP_003236
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

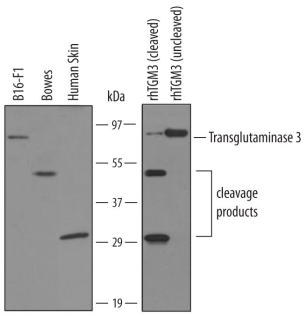
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below

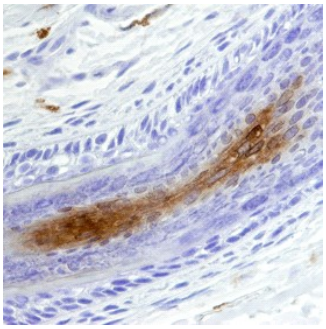
DATA

Western Blot



Detection of Human and Mouse Transglutaminase 3/TGM3 by Western Blot. Western blot shows lysates of B16-F1 mouse melanoma cell line, Bowes human melanoma cell line, and human skin tissue. PVDF Membrane was probed with 1 µg/mL of Human Transglutaminase 3/TGM3 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4604) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). For additional reference, Recombinant Human Transglutaminase 3/TGM3 (Catalog # 4604-TG) (10 ng/lane) uncleaved and cleaved by recombinant human Cathepsin were included. Specific bands were detected for uncleaved Transglutaminase 3/TGM3 at approximately 77 kDa (as indicated) and Transglutaminase 3/TGM3 cleavage products at approximately 50 and 30 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



Transglutaminase 3/TGM3 in Human Skin. Transglutaminase 3/TGM3 was detected in immersion fixed paraffin-embedded sections of human skin using Human Transglutaminase 3/TGM3 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4604) at 3 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). Specific staining was localized to cells in the hair follicle. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Transglutaminase 3 (TG3), also known as epidermal Transglutaminase (Tgase E), belongs to the family of Transglutaminase enzymes that catalyze the posttranslational modification of proteins via calcium dependent cross-linking reactions (1-3). TG3 is involved in the formation of the cornified envelope in skin keratinocytes (4). It functions to cross-link structural proteins during epidermal terminal differentiation. TG3 has been implicated as the dominant autoantigen in dermatitis herpetiformis (5). TG3 activation requires proteolysis of the 77 kDa zymogen into two fragments of approximately 50 and 27 kDa to form the active enzyme (1).

References:

1. Kim, I.G. *et al.* (1993) J. Biol. Chem. **268**:12682.
2. Griffin, M. *et al.* (2002) Biochem. J. **368**:377.
3. Lorand, L. and R.M. Graham (2003) Nat. Rev. Mol. Cell Biol. **4**:140.
4. Eckert, R.L. *et al.* (2005) J. Invest. Dermatol. **124**:481.
5. Sardy, M. *et al.* (2002) J. Exp. Med. **195**:747.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956