

# TGase1 (H-87): sc-25786

## BACKGROUND

Terminally differentiating mammalian epidermal cells acquire an insoluble, 10 to 20 nm thick protein deposit on the intracellular surface of the plasma membrane known as the cross-linked cell envelope (CE). The CE is a component of the epidermis that is generated through formation of disulfide bonds and g-glutamyl-lysine isodipeptide bonds, which are formed by the action of transglutaminases (TGases). TGases are intercellularly localizing, Ca<sup>2+</sup>-dependent enzymes that catalyze the formation of isopeptide bonds by transferring an amine on to glutamyl residues, thereby cross-linking glutamine residues and lysine residues in substrate proteins. TGases influence numerous biological processes, including blood coagulation, epidermal differentiation, seminal fluid coagulation, fertilization, cell differentiation and apoptosis. Human keratinocyte transglutaminase (TGase1) is a membrane associated, 817 amino acid protein. Human tissue transglutaminase (TGase2) is an endothelial cell specific, 687 amino acid protein.

## CHROMOSOMAL LOCATION

Genetic locus: TGM1 (human) mapping to 14q12; Tgm1 (mouse) mapping to 14 C3.

## SOURCE

TGase1 (H-87) is a rabbit polyclonal antibody raised against amino acids 731-817 mapping at the C-terminus of TGase1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

TGase1 (H-87) is recommended for detection of TGase1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TGase1 (H-87) is also recommended for detection of TGase1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for TGase1 siRNA (h): sc-37512, TGase1 siRNA (m): sc-37513, TGase1 shRNA Plasmid (h): sc-37512-SH, TGase1 shRNA Plasmid (m): sc-37513-SH, TGase1 shRNA (h) Lentiviral Particles: sc-37512-V and TGase1 shRNA (m) Lentiviral Particles: sc-37513-V.

Molecular Weight of TGase1 proteolytically processed forms: 67/33/10 kDa.

Molecular Weight of full length TGase1 zymogen: 106 kDa.

Positive Controls: TGase1 (h): 293T Lysate: sc-113816 or TGase1 (m): 293T Lysate: sc-124015 or Caki-1 cell lysate: sc-2224.

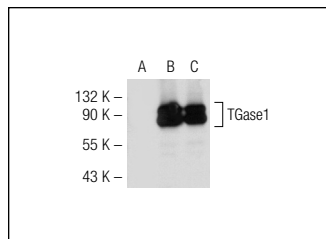
## RESEARCH USE

For research use only, not for use in diagnostic procedures.

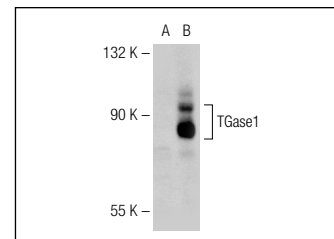
## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

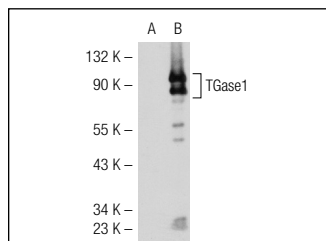
## DATA



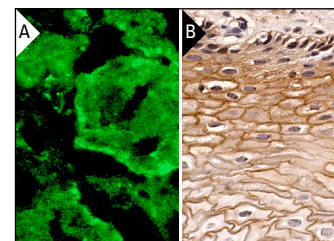
TGase1 (H-87): sc-25786. Western blot analysis of TGase1 expression in non-transfected 293T: sc-117752 (A), mouse TGase1 transfected 293T: sc-124015 (B) and Caki-1 (C) whole cell lysates.



TGase1 (H-87): sc-25786. Western blot analysis of TGase1 expression in non-transfected: sc-117752 (A) and human TGase1 transfected: sc-171609 (B) 293T whole cell lysates.



TGase1 (H-87): sc-25786. Western blot analysis of TGase1 expression in non-transfected: sc-117752 (A) and human TGase1 transfected: sc-113816 (B) 293T whole cell lysates.



TGase1 (H-87): sc-25786. Immunofluorescence staining of normal mouse kidney frozen section showing cytoplasmic staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cervix tissue showing membrane staining of squamous epithelial cells (B).

## SELECT PRODUCT CITATIONS

- Jiang, H., et al. 2010. Type I transglutaminase accumulation in the endoplasmic reticulum may be an underlying cause of autosomal recessive congenital ichthyosis. *J. Biol. Chem.* 285: 31634-31646.
- Wu, N.L., et al. 2011. TRAIL-induced keratinocyte differentiation requires caspase activation and p63 expression. *J. Invest. Dermatol.* 131: 874-883.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **TGase1 (A-5): sc-365821** or **TGase1 (E-6): sc-166467**, our highly recommended monoclonal alternatives to TGase1 (H-87).