

# TGase4 (E-10): sc-271382

## 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  $\gamma$ -glutamyl-lysine isodipeptide bonds, which are formed by the action of transglutaminases (TGases). TGases are intercellularly localizing,  $\text{Ca}^{2+}$ -dependent enzymes, which 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. TGase4, also known as TGM4, TGP or hTGP, is a typical TGase that is specifically expressed in prostate tissue.

## REFERENCES

1. Yamanishi, K., et al. 1991. Molecular cloning of human epidermal transglutaminase cDNA from keratinocytes in culture. *Biochem. Biophys. Res. Commun.* 175: 906-913.
2. Gentile, V., et al. 1991. Isolation and characterization of cDNA clones to mouse macrophage and human endothelial cell tissue transglutaminases. *J. Biol. Chem.* 266: 478-483.
3. Kim, I.G., et al. 1992. Structure and organization of the human transglutaminase 1 gene. *J. Biol. Chem.* 267: 7710-7717.
4. Ueki, S., et al. 1996. Dual functions of transglutaminase in novel cell adhesion. *J. Cell Sci.* 109: 2727-2735.

## CHROMOSOMAL LOCATION

Genetic locus: TGM4 (human) mapping to 3p21.31; Tgm4 (mouse) mapping to 9 F4.

## SOURCE

TGase4 (E-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 573-618 within an internal region of TGase4 of human origin.

## PRODUCT

Each vial contains 200  $\mu\text{g}$  IgG $\gamma_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TGase4 (E-10) is available conjugated to agarose (sc-271382 AC), 500  $\mu\text{g}$ /0.25 ml agarose in 1 ml, for IP; to HRP (sc-271382 HRP), 200  $\mu\text{g}$ /ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271382 PE), fluorescein (sc-271382 FITC), Alexa Fluor<sup>®</sup> 488 (sc-271382 AF488), Alexa Fluor<sup>®</sup> 546 (sc-271382 AF546), Alexa Fluor<sup>®</sup> 594 (sc-271382 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-271382 AF647), 200  $\mu\text{g}$ /ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-271382 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-271382 AF790), 200  $\mu\text{g}$ /ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271382 P, (100  $\mu\text{g}$  peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

TGase4 (E-10) is recommended for detection of TGase4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu\text{g}$  per 100-500  $\mu\text{g}$  of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TGase4 siRNA (h): sc-63121, TGase4 siRNA (m): sc-63122, TGase4 shRNA Plasmid (h): sc-63121-SH, TGase4 shRNA Plasmid (m): sc-63122-SH, TGase4 shRNA (h) Lentiviral Particles: sc-63121-V and TGase4 shRNA (m) Lentiviral Particles: sc-63122-V.

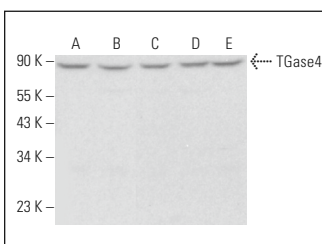
Molecular Weight of TGase4: 77 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, AT3B-1 whole cell lysate: sc-364372 or Hep G2 cell lysate: sc-2227.

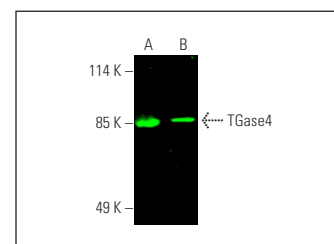
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



TGase4 (E-10): sc-271382. Western blot analysis of TGase4 expression in CCRF-CEM (A), Hep G2 (B), NTERA-2 cl.D1 (C), AT3B-1 (D) and F9 (E) whole cell lysates. Detection reagent used: m-IgG $\kappa$  BP-HRP: sc-516102.



TGase4 (E-10): sc-271382. Near-Infrared western blot analysis of TGase4 expression in NTERA-2 cl.D1 (A) and AT3B-1 (B) whole cell lysates. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Detection reagent used: m-IgG $\kappa$  BP-CFL 680: sc-516180.

## STORAGE

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

## RESEARCH USE

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

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