SANTA CRUZ BIOTECHNOLOGY, INC.

TGase4 (E-9): sc-514815

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 γ-glutamyl-lysine isodipeptide bonds, which are formed by the action of transglutaminases (TGases). TGases are intercellularly localizing, Ca^{2+}-dependent enzymes, which catalyze the formation of isopeptide bonds by transferring an amine on to glutaminyl 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 (mouse) mapping to 9 F4.

SOURCE

TGase4 (E-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 63-87 near the N-terminus of TGase4 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TGase4 (E-9) is available conjugated to agarose (sc-514815 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514815 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514815 PE), fluorescein (sc-514815 FITC), Alexa Fluor® 488 (sc-514815 AF488), Alexa Fluor® 546 (sc-514815 AF546), Alexa Fluor® 594 (sc-514815 AF594) or Alexa Fluor® 647 (sc-514815 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514815 AF680) or Alexa Fluor® 790 (sc-514815 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514815 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

TGase4 (E-9) is recommended for detection of TGase4 of mouse origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

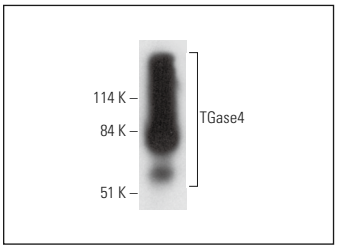
Molecular Weight of TGase4: 77 kDa.

Positive Controls: mouse prostate extract: sc-364249.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



TGase4 (E-9): sc-514815. Western blot analysis of TGase4 expression in mouse prostate tissue extract.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.