SANTA CRUZ BIOTECHNOLOGY, INC.

TGase6 (G-16): sc-85959

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 the formation of disulfide bonds and γ-glutamyl-lysine isodipeptide bonds, which are formed by the action of transglutaminases (TGases). TGases are Ca^{2+}-dependent enzymes, which catalyze the formation of isopeptide bonds by transferring an amine to a glutaminyl residue, 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. TGase6 (transglutaminase 6), also known as TGM6, TGY or TGM3L, is a 706 amino acid protein that catalyzes the cross-linking of proteins and the conjugation of proteins to polyamines. As a result of alternative splicing, two TGase6 isoforms exist.

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. Mariniello, L., et al. 1993. Human-immunodeficiency-virus transmembrane glycoprotein GP41 is an amino acceptor and donor substrate for transglutaminase *in vitro*. Eur. J. Biochem. 215: 99-104.
4. Ikura, K., et al. 1995. Site-directed mutation in conserved anionic regions of guinea pig liver transglutaminase. Arch. Biochem. Biophys. 318: 307-313.
5. Ueki, S., et al. 1996. Dual functions of transglutaminase in novel cell adhesion. J. Cell Sci. 109: 2727-2735.

CHROMOSOMAL LOCATION

Genetic locus: TGM6 (human) mapping to 20p13; Tgm6 (mouse) mapping to 2 F1.

SOURCE

TGase6 (G-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TGase6 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.

Blocking peptide available for competition studies, sc-85959 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

TGase6 (G-16) is recommended for detection of TGase6 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other TGase family members.

TGase6 (G-16) is also recommended for detection of TGase6 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for TGase6 siRNA (h): sc-76648, TGase6 siRNA (m): sc-154239, TGase6 shRNA Plasmid (h): sc-76648-SH, TGase6 shRNA Plasmid (m): sc-154239-SH, TGase6 shRNA (h) Lentiviral Particles: sc-76648-V and TGase6 shRNA (m) Lentiviral Particles: sc-154239-V.

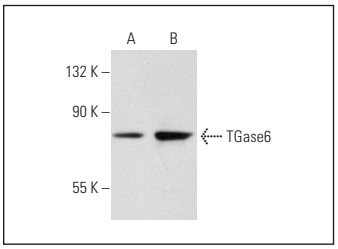
Molecular Weight of TGase6: 79 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209 or rat lung extract: sc-2396.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



TGase6 (G-16): sc-85959. Western blot analysis of TGase6 expression in rat lung tissue extract (**A**) and HL-60 whole cell lysate (**B**).

RESEARCH USE

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