



TGase5 (H-15): sc-130104

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 intercellular localized, Ca^{2+} -dependent enzymes, which catalyze the formation of isopeptide bonds by transferring an amine to a glutamyl 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. TGase5 (transglutaminase 5), also known as TGM5 or TGX, is a 720 amino acid cytoplasmic protein that uses calcium to catalyze the cross-linking of proteins and plays an important role in the formation of the cornified cell envelope of keratinocytes. Defects in the gene encoding TGase5 are associated with peeling skin syndrome acral type (APSS), an autosomal recessive disease characterized by the continuous shedding of the outer layers of the epidermis.

REFERENCES

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3. Candi, E., et al. 2002. Expression of transglutaminase 5 in normal and pathologic human epidermis. *J. Invest. Dermatol.* 119: 670-677.
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7. Cassidy, A.J., et al. 2005. A homozygous missense mutation in TGM5 abolishes epidermal transglutaminase 5 activity and causes acral peeling skin syndrome. *Am. J. Hum. Genet.* 77: 909-917.
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RESEARCH USE

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

CHROMOSOMAL LOCATION

Genetic locus: TGM5 (human) mapping to 15q15.2.

SOURCE

TGase5 (H-15) is a purified rabbit polyclonal antibody raised against TGase5 of human origin.

PRODUCT

Each vial contains 100 μg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TGase5 (H-15) is recommended for detection of TGase5 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for TGase5 siRNA (h): sc-90196, TGase5 shRNA Plasmid (h): sc-90196-SH and TGase5 shRNA (h) Lentiviral Particles: sc-90196-V.

Molecular Weight of TGase5: 84 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

STORAGE

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

PROTOCOLS

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