SANTA CRUZ BIOTECHNOLOGY, INC.

# TGase6 (E-1): sc-398160

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*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.


## CHROMOSOMAL LOCATION

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

## SOURCE

TGase6 (E-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 163-188 within an internal region of TGase6 of human 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.

TGase6 (E-1) is available conjugated to agarose (sc-398160 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398160 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398160 PE), fluorescein (sc-398160 FITC), Alexa Fluor® 488 (sc-398160 AF488), Alexa Fluor® 546 (sc-398160 AF546), Alexa Fluor® 594 (sc-398160 AF594) or Alexa Fluor® 647 (sc-398160 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398160 AF680) or Alexa Fluor® 790 (sc-398160 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398160 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).



## APPLICATIONS

TGase6 (E-1) is recommended for detection of TGase6 of mouse, rat and human 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).

TGase6 (E-1) is also recommended for detection of TGase6 in additional species, including canine.

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.

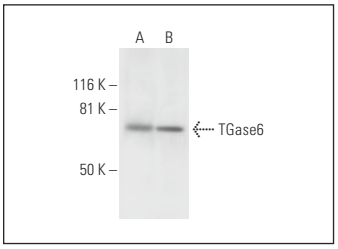
Molecular Weight of TGase6: 79 kDa.

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

## RECOMMENDED 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




TGase6 (E-1): sc-398160. Western blot analysis of TGase6 expression in HL-60 whole cell lysate (**A**) and rat lung tissue extract (**B**).

## 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.