SANTA CRUZ BIOTECHNOLOGY, INC.

TGFβ RIII (A-4): sc-74511

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

A total of three members of the TGFβ family, TGFβ1, TGFβ2 and TGFβ3, have been identified in mammals. Each is synthesized as a latent precursor that is subsequently cleaved forming the 112 amino acid growth factor which becomes active upon dimerization. TGFβs mediate their activity by high affinity binding to the type II receptor transmembrane protein with a cytoplasmic serine-threonine kinase domain. TGFβ RIII (transforming growth factor β receptor type 3), also known as TGFBR3 or TGFR-3, is an 850 amino acid secreted and single-pass type I membrane protein that contains one ZP domain and may assist in capturing TGFβ for presentation to signaling receptors. TGFβ RIII undergoes post-translational modification by glycos-aminoglycan groups (GAG) and is encoded by a gene that maps to human chromosome 1p22.1.

CHROMOSOMAL LOCATION

Genetic locus: TGFBR3 (human) mapping to 1p22.1; Tgfbr3 (mouse) mapping to 5 E5.

SOURCE

TGFβ RIII (A-4) is a mouse monoclonal antibody raised against amino acids 511-790 mapping near the C-terminus of TGFβ RIII 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.

TGFβ RIII (A-4) is available conjugated to agarose (sc-74511 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-74511 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74511 PE), fluorescein (sc-74511 FITC), Alexa Fluor® 488 (sc-74511 AF488), Alexa Fluor® 546 (sc-74511 AF546), Alexa Fluor® 594 (sc-74511 AF594) or Alexa Fluor® 647 (sc-74511 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-74511 AF680) or Alexa Fluor® 790 (sc-74511 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TGFβ RIII (A-4) is recommended for detection of TGFβ RIII 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), immunohistochemistry (including paraffin-embedded sections) (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 TGFβ RIII siRNA (h): sc-40224, TGFβ RIII siRNA (m): sc-40225, TGFβ RIII shRNA Plasmid (h): sc-40224-SH, TGFβ RIII shRNA Plasmid (m): sc-40225-SH, TGFβ RIII shRNA (h) Lentiviral Particles: sc-40224-V and TGFβ RIII shRNA (m) Lentiviral Particles: sc-40225-V.

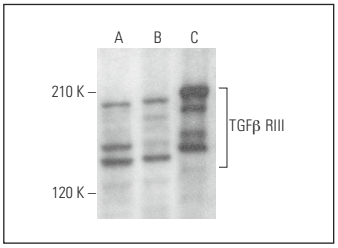
Molecular Weight of TGFβ RIII: 100-200 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, MCF7 whole cell lysate: sc-2206 or IMR-32 cell lysate: sc-2409.

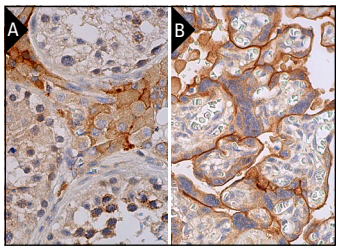
STORAGE

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

DATA



TGFβ RIII (A-4): sc-74511. Western blot analysis of TGFβ RIII expression in Jurkat (**A**), MCF7 (**B**) and IMR-32 (**C**) whole cell lysates.



TGFβ RIII (A-4): sc-74511. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing faint cytoplasmic staining of cells in seminiferous ducts and membrane and cytoplasmic staining of Leydig cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing membrane and cytoplasmic staining of trophoblastic cells (**B**).

SELECT PRODUCT CITATIONS

1. Mytilinaiou, M., et al. 2013. Syndecan-2 is a key regulator of transforming growth factor β2/Smad2-mediated adhesion in fibrosarcoma cells. IUBMB Life 65: 134-143.
2. Buhrmann, C., et al. 2014. Curcumin suppresses crosstalk between colon cancer stem cells and stromal fibroblasts in the tumor microenvironment: potential role of EMT. PLoS ONE 9: e107514.
3. Olaya-C, M., et al. 2015. Immunohistochemical protein expression profiling of growth- and apoptotic-related factors in relation to umbilical cord length. Early Hum. Dev. 91: 291-297.
4. Grgurevic, L., et al. 2020. Plasma levels and tissue expression of soluble TGFβ RIII receptor in women with early-stage breast cancer and in healthy women: a prospective observational study. J. Transl. Med. 18: 478.
5. Trelford, C.B. and Di Guglielmo, G.M. 2021. Canonical and non-canonical TGFβ signaling activate autophagy in an ULK1-dependent manner. Front. Cell Dev. Biol. 9: 712124.
6. Nakamura, I., et al. 2021. Sulfatase-2 regulates liver fibrosis through the TGFβ signaling pathway. Cancers 13: 5279.
7. Trelford, C.B. and Di Guglielmo, G.M. 2022. Prolonged proteasome inhibition antagonizes TGFβ1-dependent signalling by promoting the lysosomal-targeting of TGFβ receptors. Cell. Signal. 98: 110414.
8. Yi, Y., et al. 2023. Screening of novel serum biomarkers for gastric cancer in coastal populations using a protein microarray. Cancer Sci. 114: 3396-3410.

RESEARCH USE

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