SANTA CRUZ BIOTECHNOLOGY, INC.

GLI-3 (B-4): sc-74478

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Zinc-finger proteins contain DNA-binding domains and have a wide variety of functions, most of which encompass some form of transcriptional activation or repression. The majority of zinc-finger proteins contain a Krüppel-type DNA binding domain and a KRAB domain, which is thought to interact with KAP1, thereby recruiting histone modifying proteins. GLI-3 (GLI family zinc finger 3), also known as GLI3FL (GLI3 full length protein), PHS, ACLS, GCPS, PAPA, PAPB, PAPA1 or PPDIV, is a 1,580 amino acid nuclear and cytoplasmic protein that acts as both a transcriptional activator and a repressor of the Sonic hedgehog (Shh) pathway. A member of the GLI C_2H_2-type zinc-finger protein family, GLI-3 is encoded by a gene that maps to human chromosome 7p14.1. Defects in the GLI-3 gene are the cause of a disorder known as Greig cephalopolysyndactyly syndrome (GCPS), which affects limb and craniofacial development.

REFERENCES

1. Ruppert, J.M., et al. 1988. The GLI-Krüppel family of human genes. Mol. Cell. Biol. 8: 3104-3113.
2. Ruppert, J.M., et al. 1990. GLI3 encodes a 190-kilodalton protein with multiple regions of GLI similarity. Mol. Cell. Biol. 10: 5408-5415.
3. Wild, A., et al. 1997. Point mutations in human GLI3 cause Greig syndrome. Hum. Mol. Genet. 6: 1979-1984.

CHROMOSOMAL LOCATION

Genetic locus: GLI3 (human) mapping to 7p14.1; Gli3 (mouse) mapping to 13 A1.

SOURCE

GLI-3 (B-4) is a mouse monoclonal antibody raised against amino acids 1-280 of GLI-3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-74478 X, 200 µg/0.1 ml.

GLI-3 (B-4) is available conjugated to agarose (sc-74478 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-74478 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74478 PE), fluorescein (sc-74478 FITC), Alexa Fluor® 488 (sc-74478 AF488), Alexa Fluor® 546 (sc-74478 AF546), Alexa Fluor® 594 (sc-74478 AF594) or Alexa Fluor® 647 (sc-74478 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-74478 AF680) or Alexa Fluor® 790 (sc-74478 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

GLI-3 (B-4) is recommended for detection of GLI-3 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).

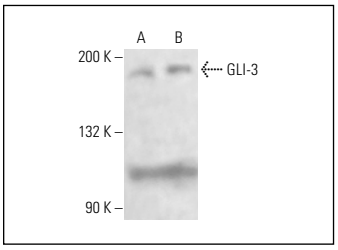
Suitable for use as control antibody for GLI-3 siRNA (h): sc-35483, GLI-3 siRNA (m): sc-35484, GLI-3 shRNA Plasmid (h): sc-35483-SH, GLI-3 shRNA Plasmid (m): sc-35484-SH, GLI-3 shRNA (h) Lentiviral Particles: sc-35483-V and GLI-3 shRNA (m) Lentiviral Particles: sc-35484-V.

GLI-3 (B-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

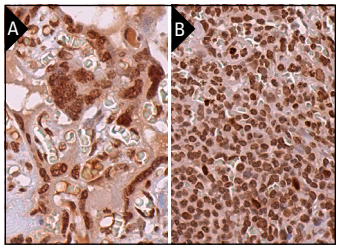
Molecular Weight of GLI-3: 190 kDa.

Positive Controls: Y79 nuclear extract: sc-2126, K-562 nuclear extract: sc-2130 or Jurkat nuclear extract: sc-2132.

DATA



GLI-3 (B-4): sc-74478. Western blot analysis of GLI-3 expression in Y79 (**A**) and K-562 (**B**) nuclear extracts.



GLI-3 (B-4): sc-74478. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing nuclear and cytoplasmic staining of trophoblastic cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing nuclear staining of cells in white pulp and cells in red pulp (**B**).

SELECT PRODUCT CITATIONS

1. Dey, S., et al. 2020. miR-29a is repressed by Myc in pancreatic cancer and its restoration drives tumor-suppressive effects via downregulation of LOXL2. Mol. Cancer Res. 18: 311-323.
2. Qu, J.Y., et al. 2021. Hedgehog signaling pathway regulates the proliferation and differentiation of rat meibomian gland epithelial cells. Invest. Ophthalmol. Vis. Sci. 62: 33.
3. Tang, C., et al. 2023. Hippo signaling activates hedgehog signaling by Taz-driven GLI-3 processing. Cell Regen. 12: 3.
4. Tang, C., et al. 2025. GPR137-RAB8A activation promotes ovarian cancer development via the Hedgehog pathway. J. Exp. Clin. Cancer Res. 44: 22.

RESEARCH USE

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