SANTA CRUZ BIOTECHNOLOGY, INC.

Pygopus 2 (B-12): sc-390506

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Pygopus 2, also known as PYGO2, is a 406 amino acid protein that is the human homolog of the *Drosophila* pygopus protein. Localized to the nucleus, Pygopus 2 contains one PHD finger that interacts with the homology domain of the Wnt signaling protein Bcl-9. This interaction joins Pygopus 2 with the β-catenin/TCF complex (a crucial complex in Wnt signaling), thereby allowing β-catenin to transcriptionally activate Wnt target genes. Association of Pygopus 2 with proteins involved in the Wnt signaling pathway is thought to regulate proper signal transduction, as absence of the Pygopus 2/β-catenin interaction may play a role in development of B-cell malignancies. In addition, Pygopus 2 expression is upregulated in and required for the growth of breast cancer cells, suggesting a crucial role in carcinogenesis.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606903. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Li, B., et al. 2004. Cloning and developmental expression of mouse Pygopus 2, a putative Wnt signaling component. Genomics 84: 398-405.

CHROMOSOMAL LOCATION

Genetic locus: PYGO2 (human) mapping to 1q21.3; Pygo2 (mouse) mapping to 3 F1.

SOURCE

Pygopus 2 (B-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 273-309 within an internal region of Pygopus 2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Pygopus 2 (B-12) is available conjugated to agarose (sc-390506 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390506 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390506 PE), fluorescein (sc-390506 FITC), Alexa Fluor® 488 (sc-390506 AF488), Alexa Fluor® 546 (sc-390506 AF546), Alexa Fluor® 594 (sc-390506 AF594) or Alexa Fluor® 647 (sc-390506 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390506 AF680) or Alexa Fluor® 790 (sc-390506 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390506 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Pygopus 2 (B-12) is recommended for detection of Pygopus 2 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).

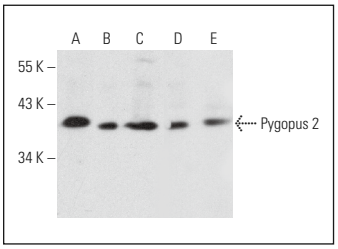
Pygopus 2 (B-12) is also recommended for detection of Pygopus 2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Pygopus 2 siRNA (h): sc-76303, Pygopus 2 siRNA (m): sc-76304, Pygopus 2 shRNA Plasmid (h): sc-76303-SH, Pygopus 2 shRNA Plasmid (m): sc-76304-SH, Pygopus 2 shRNA (h) Lentiviral Particles: sc-76303-V and Pygopus 2 shRNA (m) Lentiviral Particles: sc-76304-V.

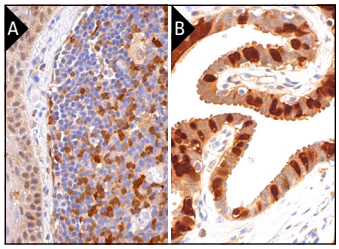
Molecular Weight of Pygopus 2: 42 kDa.

Positive Controls: c4 whole cell lysate: sc-364186, PC-12 cell lysate: sc-2250 or JEG-3 whole cell lysate: sc-364255.

DATA



Pygopus 2 (B-12): sc-390506. Western blot analysis of Pygopus 2 expression in JEG-3 (**A**), NIH/3T3 (**B**), c4 (**C**), PC-12 (**D**) and C6 (**E**) whole cell lysates.



Pygopus 2 (B-12): sc-390506. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of squamous epithelial cells and nuclear and cytoplasmic staining of cells in germinal center and cells in non-germinal center (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Li, Q., et al. 2015. Akt phosphorylates Wnt coactivator and chromatin effector Pygo2 at Serine 48 to antagonize its ubiquitin/proteasome-mediated degradation. J. Biol. Chem. 290: 21553-21567.
2. Htun, M.W., et al. 2021. Nuclear expression of Pygo2 correlates with poorly differentiated state involving c-Myc, PCNA and Bcl9 in myanmar hepatocellular carcinoma. Acta Histochem. Cytochem. 54: 195-206.
3. Lee, M.G., et al. 2022. Nuclear S6K1 enhances oncogenic Wnt signaling by inducing Wnt/β-catenin transcriptional complex formation. Int. J. Mol. Sci. 23: 16143.

RESEARCH USE

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