SANTA CRUZ BIOTECHNOLOGY, INC.

Pygopus 2 (B-8): sc-390528

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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.
3. Popadiuk, C.M., et al. 2006. Antisense suppression of Pygopus 2 results in growth arrest of epithelial ovarian cancer. Clin. Cancer Res. 12: 2216-2223.
4. Andrews, P.G., et al. 2007. Requirement of Pygopus 2 in breast cancer. Int. J. Oncol. 30: 357-363.
5. Schwab, K.R., et al. 2007. Pygo1 and Pygo2 roles in Wnt signaling in mammalian kidney development. BMC Biol. 5: 15.
6. Song, N., et al. 2007. Pygopus 2 has a crucial, Wnt pathway-independent function in lens induction. Development 134: 1873-1885.
7. Li, B., et al. 2007. Developmental phenotypes and reduced Wnt signaling in mice deficient for Pygopus 2. Genesis 45: 318-325.

CHROMOSOMAL LOCATION

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

SOURCE

Pygopus 2 (B-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 280-303 of Pygopus 2 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.

Blocking peptide available for competition studies, sc-390528 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-8) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Pygopus 2 (B-8) 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.

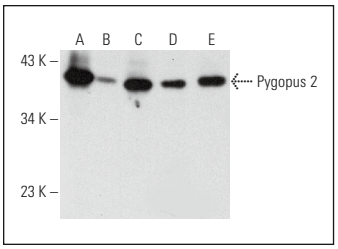
Molecular Weight of Pygopus 2: 42 kDa.

Positive Controls: Pygopus 2 (m2): 293T Lysate: sc-122857, MCF7 whole cell lysate: sc-2206 or JAR cell lysate: sc-2276.

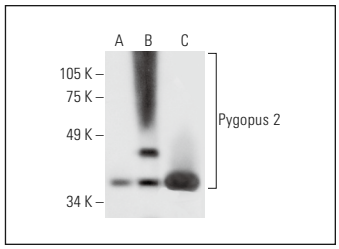
RECOMMENDED SUPPORT REAGENTS

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



Pygopus 2 (B-8): sc-390528. Western blot analysis of Pygopus 2 expression in JAR (**A**), MCF7 (**B**), NIH/3T3 (**C**), PC-12 (**D**) and C6 (**E**) whole cell lysates.



Pygopus 2 (B-8): sc-390528. Western blot analysis of Pygopus 2 expression in non-transfected 293T: sc-117752 (**A**), mouse Pygopus 2 transfected 293T: sc-122857 (**B**) and JAR (**C**) whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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