

# Pygopus 2 (B-4): sc-373994

## BACKGROUND

Pygopus 2, also known as PYG02, 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  $\beta$ -catenin/TCF complex (a crucial complex in Wnt signaling), thereby allowing  $\beta$ -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/ $\beta$ -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: PYG02 (human) mapping to 1q21.3; Pygo2 (mouse) mapping to 3 F1.

## SOURCE

Pygopus 2 (B-4) is a mouse monoclonal antibody raised against amino acids 127-339 mapping within an internal region of Pygopus 2 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## 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.

## APPLICATIONS

Pygopus 2 (B-4) is recommended for detection of Pygopus 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:10000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

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.

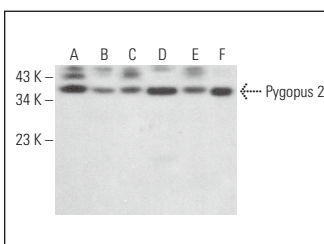
Molecular Weight of Pygopus 2: 42 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, SH-SY5Y cell lysate: sc-3812 or EOC 20 whole cell lysate: sc-364187.

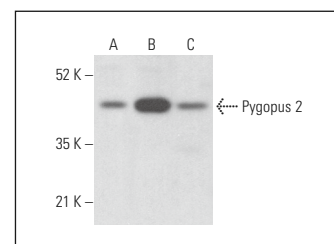
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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-4): sc-373994. Western blot analysis of Pygopus 2 expression in JAR (A), MDA-MB-231 (B), HeLa (C), c4 (D) and MCF7 (E) whole cell lysates and human rectum tissue extract (F).



Pygopus 2 (B-4): sc-373994. Western blot analysis of Pygopus 2 expression in SH-SY5Y (A), EOC 20 (B) and 3611-RF (C) whole cell lysates.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.