

Pygopus 1 (3E1): sc-517079

BACKGROUND

Pygopus 1, also known as PYGO1, is a 419 amino acid protein that localizes to the nucleus and contains one PHD-type zinc finger. Interacting with Bcl-9, Pygopus 1 is thought to be involved in signal transduction events related to the Wnt pathway. The gene encoding Pygopus 1 maps to human chromosome 15, which encodes over 700 genes and comprises nearly 3% of the human genome. Angelman and Prader-Willi syndromes are associated with loss of function or deletion of genes in the 15q11-q13 region. In the case of Angelman syndrome, this loss is due to inactivity of the maternal 15q11-q13 encoded UBE3A gene in the brain by either chromosomal deletion or mutation. In cases of Prader-Willi syndrome, there is a partial or complete deletion of this region from the paternal copy of chromosome 15. Tay-Sachs disease is a lethal disorder associated with mutations of the HEXA gene, which is encoded by chromosome 15. Marfan syndrome is associated with chromosome 15 through the FBN1 gene.

REFERENCES

- Kramps, T., et al. 2002. Wnt/wingless signaling requires Bcl9/legless-mediated recruitment of pygopus to the nuclear β -catenin-TCF complex. *Cell* 109: 47-60.
- Thompson, B., et al. 2002. A new nuclear component of the Wnt signaling pathway. *Nat. Cell Biol.* 4: 367-373.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606902. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Townsley, F.M., et al. 2004. Pygopus residues required for its binding to Legless are critical for transcription and development. *J. Biol. Chem.* 279: 5177-5183.
- Cachón-González, M.B., et al. 2006. Effective gene therapy in an authentic model of Tay-Sachs-related diseases. *Proc. Natl. Acad. Sci. USA* 103: 10373-10378.
- Zody, M.C., et al. 2006. Analysis of the DNA sequence and duplication history of human chromosome 15. *Nature* 440: 671-675.
- Diene, G., et al. 2007. The Prader-Willi syndrome. *Ann. Endocrinol.* 68: 129-137.
- Lalande, M. and Calciano, M.A. 2007. Molecular epigenetics of Angelman syndrome. *Cell. Mol. Life Sci.* 64: 947-960.
- Makoff, A.J. and Flomen, R.H. 2007. Detailed analysis of 15q11-q14 sequence corrects errors and gaps in the public access sequence to fully reveal large segmental duplications at breakpoints for Prader-Willi, Angelman, and inv dup(15) syndromes. *Genome Biol.* 8: R114.

CHROMOSOMAL LOCATION

Genetic locus: PYGO1 (human) mapping to 15q21.3; Pygo1 (mouse) mapping to 9 D.

SOURCE

Pygopus 1 (3E1) is a mouse monoclonal antibody raised against amino acids 101-200 representing partial length Pygopus 1 of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Pygopus 1 (3E1) is recommended for detection of Pygopus 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Pygopus 1 siRNA (h): sc-76301, Pygopus 1 siRNA (m): sc-76302, Pygopus 1 shRNA Plasmid (h): sc-76301-SH, Pygopus 1 shRNA Plasmid (m): sc-76302-SH, Pygopus 1 shRNA (h) Lentiviral Particles: sc-76301-V and Pygopus 1 shRNA (m) Lentiviral Particles: sc-76302-V.

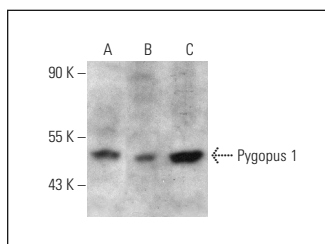
Molecular Weight of Pygopus 1: 45 kDa.

Positive Controls: IMR-32 nuclear extract: sc-2148, NIH/3T3 nuclear extract: sc-2138 or Sol8 nuclear extract: sc-2157.

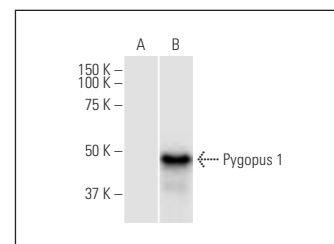
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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).

DATA



Pygopus 1 (3E1): sc-517079. Western blot analysis of Pygopus 1 expression in IMR-32 (A), NIH/3T3 (B) and Sol8 (C) nuclear extracts.



Pygopus 1 (3E1): sc-517079. Western blot analysis of Pygopus 1 expression in non-transfected (A) and Pygopus 1 transfected (B) 293T whole cell lysates.

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.

PROTOCOLS

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