

POD-1 (P-16): sc-15007

BACKGROUND

The basic helix-loop-helix (bHLH) class of transcription factors govern cell fate determination by controlling a variety of cellular differentiation processes. POD-1 (podocyte-expressed 1, also designated capsulin or epicardin) is a nuclear bHLH protein that is involved in the specification of select mesodermal cell populations associated with heart, cranial skeletal muscle, gut and urogenital system. POD-1 is selectively expressed in mesenchymal cells at sites of epithelial-mesenchymal interaction in the kidney, lung, intestine, pancreas and the epicardium, which gives rise to the coronary arteries. This epithelial-mesenchymal interaction is involved in the formation of numerous internal organs. POD-1 is also expressed in the mesothelium that gives rise to the spleen and in cells that give rise to smooth muscle. In addition to its role in kidney morphogenesis and spleen organogenesis, POD-1 may play a role in the development and sex determination of the mammalian gonad.

REFERENCES

- Lu, J., et al. 1998. Capsulin: a novel bHLH transcription factor expressed in epicardial progenitors and mesenchyme of visceral organs. *Mech. Dev.* 73: 23-32.
- Hidai, H., et al. 1998. Cloning of capsulin, a basic helix-loop-helix factor expressed in progenitor cells of the pericardium and the coronary arteries. *Mech. Dev.* 73: 33-43.
- Robb, L., et al. 1998. Epicardin: A novel basic helix-loop-helix transcription factor gene expressed in epicardium, branchial arch myoblasts, and mesenchyme of developing lung, gut, kidney, and gonads. *Dev. Dyn.* 213: 105-113.
- Quaggin, S.E., et al. 1998. Pod-1, a mesoderm-specific basic-helix-loop-helix protein expressed in mesenchymal and glomerular epithelial cells in the developing kidney. *Mech. Dev.* 71: 37-48.

CHROMOSOMAL LOCATION

Genetic locus: TCF21 (human) mapping to 6q23.2; Tcf21 (mouse) mapping to 10 A3.

SOURCE

POD-1 (P-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of POD-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG 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-15007 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-15007 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

POD-1 (P-16) is recommended for detection of POD-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

POD-1 (P-16) is also recommended for detection of POD-1 in additional species, including equine, canine, bovine, porcine and avian.

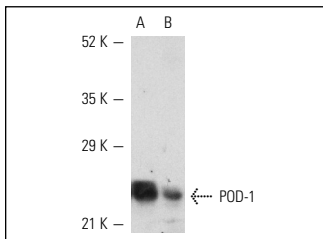
Suitable for use as control antibody for POD-1 siRNA (h): sc-38185, POD-1 siRNA (m): sc-38186, POD-1 shRNA Plasmid (h): sc-38185-SH, POD-1 shRNA Plasmid (m): sc-38186-SH, POD-1 shRNA (h) Lentiviral Particles: sc-38185-V and POD-1 shRNA (m) Lentiviral Particles: sc-38186-V.

POD-1 (P-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

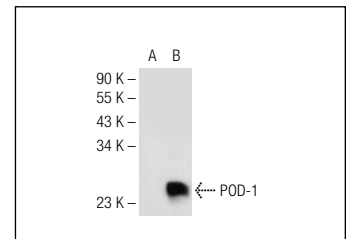
Molecular Weight of POD-1: 26 kDa.

Positive Controls: KNRK nuclear extract: sc-2141, HeLa nuclear extract: sc-2120 or POD-1 (m): 293T Lysate: sc-122671.

DATA



POD-1 (P-16): sc-15007. Western blot analysis of POD-1 expression in phorbol-treated KNRK (A) and HeLa (B) nuclear extracts.



POD-1 (P-16): sc-15007. Western blot analysis of POD-1 expression in non-transfected: sc-117752 (A) and mouse POD-1 transfected: sc-122671 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Smith, L.T., et al. 2006. Epigenetic regulation of the tumor suppressor gene TCF21 on 6q23-q24 in lung and head and neck cancer. *Proc. Natl. Acad. Sci. USA* 103: 982-987.
- Ren, X., et al. 2010. Differentiation of murine embryonic stem cells toward renal lineages by conditioned medium from ureteric bud cells *in vitro*. *Acta Biochim. Biophys. Sin.* 42: 464-471.

RESEARCH USE

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



Try **POD-1 (A-6): sc-377225**, our highly recommended monoclonal alternative to POD-1 (P-16).