

POD-1 (A-6): sc-377225

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

1. 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.
2. 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.
3. 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.

CHROMOSOMAL LOCATION

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

SOURCE

POD-1 (A-6) is a mouse monoclonal antibody raised against amino acids 6-80 mapping near the N-terminus of POD-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain 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-377225 X, 200 µg/0.1 ml.

POD-1 (A-6) is available conjugated to agarose (sc-377225 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377225 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377225 PE), fluorescein (sc-377225 FITC), Alexa Fluor® 488 (sc-377225 AF488), Alexa Fluor® 546 (sc-377225 AF546), Alexa Fluor® 594 (sc-377225 AF594) or Alexa Fluor® 647 (sc-377225 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377225 AF680) or Alexa Fluor® 790 (sc-377225 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

POD-1 (A-6) is recommended for detection of POD-1 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).

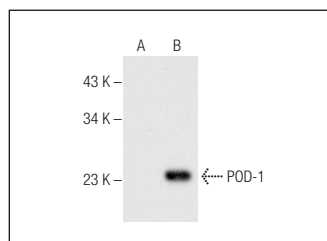
Suitable for use as control antibody for POD-1 siRNA (h): sc-38185, POD-1 siRNA (m): sc-38186, POD-1 shRNA Plasmid (h): sc-38185-SH, POD-1 shRNA Plasmid (m): sc-38186-SH, POD-1 shRNA (h) Lentiviral Particles: sc-38185-V and POD-1 shRNA (m) Lentiviral Particles: sc-38186-V.

POD-1 (A-6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

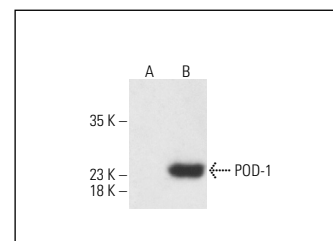
Molecular Weight of POD-1: 26 kDa.

Positive Controls: POD-1 (m): 293T Lysate: sc-122671.

DATA



POD-1 (A-6): sc-377225. 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.



POD-1 (A-6) HRP: sc-377225 HRP. Direct 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

1. Wu, P.L., et al. 2018. Transcription factor 21 regulates expression of ERβ and SF-1 via upstream stimulatory factor-2 in endometriotic tissues. *Biochim. Biophys. Acta Gene Regul. Mech.* 1861: 706-717.
2. Perdios, C., et al. 2019. Altered haemodynamics causes aberrations in the epicardium. *J. Anat.* 234: 800-814.
3. Liu, S., et al. 2025. Single-cell and spatial transcriptomic profiling revealed niche interactions sustaining growth of endometriotic lesions. *Cell Genom.* 5: 100737.

STORAGE

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

PROTOCOLS

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