

Pit-1 (D-7): sc-393943

BACKGROUND

Transcriptional regulators play a critical role in development by mediating tissue- and cell-specific transcription. POU domain factors are transcriptional regulators characterized by a bipartite DNA binding domain, which consists of two highly conserved regions, tethered by a variable linker of 14-26 amino acids. Pit-1, also known as growth hormone factor-1 (GHF-1), a member of the POU homeodomain family, is essential for the normal development of the anterior pituitary gland, where it is required for the formation of somatotropes, lactotropes and thyrotropes. In somatotropes and lactotropes, Pit-1 activates the production of growth hormone and Prolactin, respectively. In addition, Pit-1 acts as a repressor of gene expression, which allows for the differentiation of specific cell types. Pit-1 is expressed as two alternatively spliced products, designated Pit-1a and Pit-1b, which differ in their *trans*-activation ability. Mutations in the Pit-1 gene are believed to result in combined pituitary hormone deficiency (CPHD) for growth hormone, Prolactin and thyroid stimulating hormone. The gene which encodes Pit-1 maps to human chromosome 3p11.2.

CHROMOSOMAL LOCATION

Genetic locus: POU1F1 (human) mapping to 3p11.2; Pou1f1 (mouse) mapping to 16 C1.3.

SOURCE

Pit-1 (D-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 5-32 at the N-terminus of Pit-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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-393943 X, 200 µg/0.1 ml.

Pit-1 (D-7) is available conjugated to agarose (sc-393943 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393943 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393943 PE), fluorescein (sc-393943 FITC), Alexa Fluor® 488 (sc-393943 AF488), Alexa Fluor® 546 (sc-393943 AF546), Alexa Fluor® 594 (sc-393943 AF594) or Alexa Fluor® 647 (sc-393943 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393943 AF680) or Alexa Fluor® 790 (sc-393943 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393943 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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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.

APPLICATIONS

Pit-1 (D-7) is recommended for detection of Pit-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).

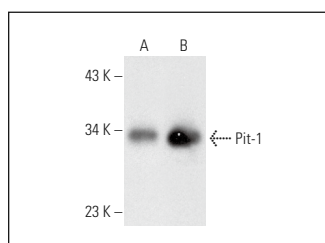
Suitable for use as control antibody for Pit-1 siRNA (h): sc-36234, Pit-1 siRNA (m): sc-36235, Pit-1 siRNA (r): sc-108037, Pit-1 shRNA Plasmid (h): sc-36234-SH, Pit-1 shRNA Plasmid (m): sc-36235-SH, Pit-1 shRNA Plasmid (r): sc-108037-SH, Pit-1 shRNA (h) Lentiviral Particles: sc-36234-V, Pit-1 shRNA (m) Lentiviral Particles: sc-36235-V and Pit-1 shRNA (r) Lentiviral Particles: sc-108037-V.

Pit-1 (D-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

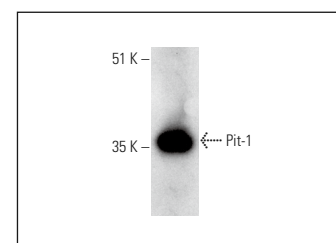
Molecular Weight of Pit-1: 31-35 kDa.

Positive Controls: rat pituitary tissue extract or GH3 whole cell lysate: sc-364777.

DATA



Pit-1 (D-7): sc-393943. Western blot analysis of Pit-1 expression in rat pituitary tissue extract (A) and GH3 whole cell lysate (B).



Pit-1 (D-7) HRP: sc-393943 HRP. Direct western blot analysis of Pit-1 expression in rat pituitary tissue extract.

SELECT PRODUCT CITATIONS

- Yao, J., et al. 2016. Transcription factor ICBP90 regulates the MIF promoter and immune susceptibility locus. *J. Clin. Invest.* 126: 732-744.
- Asa, S.L., et al. 2019. Hypothalamic vasopressin-producing tumors: often inappropriate diuresis but occasionally Cushing disease. *Am. J. Surg. Pathol.* 43: 251-260.
- Tamanini, J.V.G., et al. 2020. Digital analysis of hormonal immunostaining in pituitary adenomas classified according to WHO 2017 criteria and correlation with preoperative laboratory findings. *Neurosurg. Focus* 48: E12.
- Turchini, J., et al. 2021. PD-L1 is preferentially expressed in PIT-1 positive pituitary neuroendocrine tumours. *Endocr. Pathol.* 32: 408-414.
- Rymuza, J., et al. 2022. Transcriptomic classification of pituitary neuroendocrine tumors causing acromegaly. *Cells* 11: 3846.

RESEARCH USE

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