

INSM1 (A-8): sc-271408

BACKGROUND

INSM1 (insulinoma-associated protein 1), also known as zinc-finger protein IA-1, is a developmentally regulated zinc-finger transcription factor. It localizes to the nucleus and is expressed in embryonic tissues undergoing neuroendocrine differentiation. INSM1 is not expressed in normal adult tissues but it can be found highly expressed in neuroendocrine tumors. INSM1 contains five Cys₂-His₂-type zinc-finger DNA binding domains and a prohormone domain. INSM1 acts as a transcriptional repressor of the Neuro D promoter and recruits cyclin D1 as a corepressor. It plays an important role in neuroendocrine development and is required for normal differentiation of pancreatic endocrine cells. Inhibition of INSM1 results in decreased formation of glucagon and Insulin positive cells. The gene encoding INSM1 is directly regulated by Neurogenin 3 which binds chromatin in the INSM1 promoter region and induces transcription.

REFERENCES

- Li, Q., et al. 1997. Molecular characterization of the promoter region of a neuroendocrine tumor marker, IA-1. *Biochem. Biophys. Res. Commun.* 236: 776-781.
- Breslin, M.B., et al. 2002. Neuroendocrine differentiation factor, IA-1, is a transcriptional repressor and contains a specific DNA-binding domain: identification of consensus IA-1 binding sequence. *Nucleic Acids Res.* 30: 1038-1045.

CHROMOSOMAL LOCATION

Genetic locus: INSM1 (human) mapping to 20p11.23; Insm1 (mouse) mapping to 2 G1.

SOURCE

INSM1 (A-8) is a mouse monoclonal antibody raised against amino acids 81-125 mapping near the N-terminus of INSM1 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-271408 X, 200 µg/0.1 ml.

INSM1 (A-8) is available conjugated to agarose (sc-271408 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271408 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271408 PE), fluorescein (sc-271408 FITC), Alexa Fluor® 488 (sc-271408 AF488), Alexa Fluor® 546 (sc-271408 AF546), Alexa Fluor® 594 (sc-271408 AF594) or Alexa Fluor® 647 (sc-271408 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271408 AF680) or Alexa Fluor® 790 (sc-271408 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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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.

APPLICATIONS

INSM1 (A-8) is recommended for detection of INSM1 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

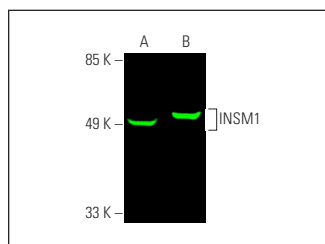
Suitable for use as control antibody for INSM1 siRNA (h): sc-72309, INSM1 siRNA (m): sc-72310, INSM1 shRNA Plasmid (h): sc-72309-SH, INSM1 shRNA Plasmid (m): sc-72310-SH, INSM1 shRNA (h) Lentiviral Particles: sc-72309-V and INSM1 shRNA (m) Lentiviral Particles: sc-72310-V.

INSM1 (A-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

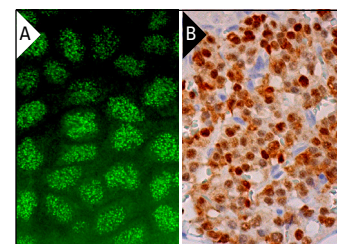
Molecular Weight of INSM1: 58 kDa.

Positive Controls: AtT-20/D16vF2 whole cell lysate: sc-364367, RIN-m5F whole cell lysate: sc-364792 or TT whole cell lysate: sc-364195.

DATA



INSM1 (A-8): sc-271408. Near-infrared western blot analysis of INSM1 expression in AtT-20/D16vF2 (A) and RIN-m5F (B) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



INSM1 (A-8): sc-271408. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing nuclear staining of Islets of Langerhans (B).

SELECT PRODUCT CITATIONS

- Rosenbaum, J.N., et al. 2015. INSM1: a novel immunohistochemical and molecular marker for neuroendocrine and neuroepithelial neoplasms. *Am. J. Clin. Pathol.* 144: 579-591.
- McCull, K., et al. 2017. Reciprocal expression of INSM1 and YAP1 defines subgroups in small cell lung cancer. *Oncotarget* 8: 73745-73756.
- Chen, C., et al. 2018. Sonic hedgehog signaling pathway promotes INSM1 transcription factor in neuroendocrine lung cancer. *Cell. Signal.* 46: 83-91.
- Chen, C., et al. 2019. Insulinoma-associated-1: from neuroendocrine tumor marker to cancer therapeutics. *Mol. Cancer Res.* 17: 1597-1604.
- Song, R., et al. 2020. Insulinoma-associated protein 1 controls nasopharyngeal carcinoma to radiotherapy by modulating cyclin D1-dependent DNA repair machinery. *Carcinogenesis* 41: 326-333.

RESEARCH USE

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