SANTA CRUZ BIOTECHNOLOGY, INC.

INSM1 (C-1): sc-377428

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 Cys_2-His_2-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 co-repressor. 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.

CHROMOSOMAL LOCATION

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

SOURCE

INSM1 (C-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 97-135 within an internal region of INSM1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 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-377428 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-377428 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

INSM1 (C-1) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). INSM1 (C-1) is also recommended for detection of INSM1 in additional species, including bovine.

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

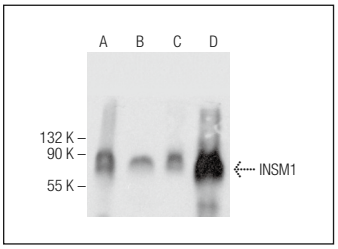
Molecular Weight of INSM1: 58 kDa.

Positive Controls: AtT-20/D16vF2 whole cell lysate: sc-364367, PC-12 cell lysate: sc-2250 or Y79 Cell Lysate: sc-2240.

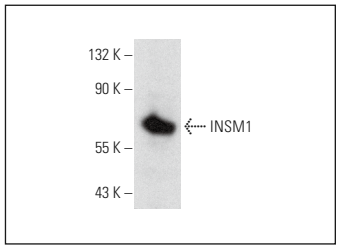
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



INSM1 (C-1): sc-377428. Western blot analysis of INSM1 expression in AtT-20/D16vF2 (**A**), PC-12 (**B**), GH3 (**C**) and RIN-m5F (**D**) whole cell lysates.



INSM1 (C-1): sc-377428. Western blot analysis of INSM1 expression in Y79 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Fujino, K., et al. 2015. Insulinoma-associated protein 1 is a crucial regulator of neuroendocrine differentiation in lung cancer. Am. J. Pathol. 185: 3164-3177.
2. Nakra, T., et al. 2019. Insulinoma-associated protein 1 is a robust nuclear immunostain for the diagnosis of small cell lung carcinoma in cytology smears. Cancer Cytopathol. 127: 539-548.
3. Tenjin, Y., et al. 2020. Distinct transcriptional programs of SOX2 in different types of small cell lung cancers. Lab. Invest. 100: 1575-1588.
4. Baca, S.C., et al. 2021. Reprogramming of the FOXA1 cistrome in treatment-emergent neuroendocrine prostate cancer. Nat. Commun. 12: 1979.
5. Chen, H.Y., et al. 2022. Regulation of neuroendocrine plasticity by the RNA-binding protein ZFP36L1. Nat. Commun. 13: 4998.
6. Van Emmenis, L., et al. 2023. The identification of CELSR3 and other potential cell surface targets in neuroendocrine prostate cancer. Cancer Res. Commun. 3: 1447-1459.

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.