

INSM1 (m): 293T Lysate: sc-127011

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.
- Xie, J., et al. 2002. The zinc-finger transcription factor INSM1 is expressed during embryo development and interacts with the Cbl-associated protein. *Genomics* 80: 54-61.
- Breslin, M.B., et al. 2003. Neuro D1/E47 regulates the E-box element of a novel zinc-finger transcription factor, IA-1, in developing nervous system. *J. Biol. Chem.* 278: 38991-38997.
- Liu, W.D., et al. 2006. INSM1 functions as a transcriptional repressor of the Neuro D/β2 gene through the recruitment of cyclin D1 and histone deacetylases. *Biochem. J.* 397: 169-177.
- Mellitzer, G., et al. 2006. IA1 is NGN3-dependent and essential for differentiation of the endocrine pancreas. *EMBO J.* 25: 1344-1352.

CHROMOSOMAL LOCATION

Genetic locus: *Insm1* (mouse) mapping to 2 G1.

PRODUCT

INSM1 (m): 293T Lysate represents a lysate of mouse INSM1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

INSM1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive INSM1 antibodies. Recommended use: 10-20 µl per lane.

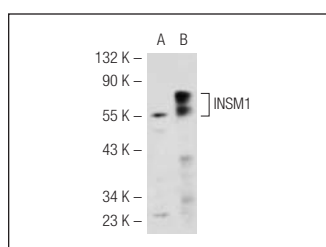
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

INSM1 (S-19): sc-54224 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse INSM1 expression in INSM1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048.

DATA



INSM1 (S-19): sc-54224. Western blot analysis of INSM1 expression in non-transfected: sc-117752 (A) and mouse INSM1 transfected: sc-127011 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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