SANTA CRUZ BIOTECHNOLOGY, INC.

MIS (A-9): sc-377140

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The transforming growth factor β (TGFβ) superfamily is composed of numerous growth and differentiation factors, including TGFβ1-3, Mullerian inhibiting substance (MIS), growth/differentiation factor (GDF) 1-9, bone morphogenic protein (BMP) 2-8, glial cell line-derived neurotrophic factor (GDNF), Inhibin α, β-A, β-B and β-C, Lefty and Nodal. Members of the TGFβ superfamily are involved in embryonic development and adult tissue homeostasis. The MIS glycoprotein is produced by the sertoli cells of the testis. Fetal testis produce both MIS and testosterone, the presence of which result in male offspring. Absence of MIS and testosterone in a developing fetus results in the induction of Mullerian duct differentiation, and Wolffian duct development is not induced. Testosterone induces the differentiation of the Wolffian ducts whereas MIS causes regression of the Muellerian duct. MIS inhibits the growth of tumors derived from tissues of Muellerian duct origin. MIS can also inhibit the autophosphorylation of the EGF receptor *in vitro*. Defects in anti-muellerian hormone are the cause of persistent Muellerian duct syndrome type I (PMDS-1). PMDS-1 is a form of male pseudohermaphroditism characterized by a failure of Muellerian duct regression in otherwise normal males.

REFERENCES

1. Cate, R.L., Mattaliano, R.J., Hession, C., Tizard, R., Farber, N.M., Cheung, A., Ninfa, E.G., Frey, A.Z., Gash, D.J., Chow, E.P., et al. 1986. Isolation of the bovine and human genes for Mullerian inhibiting substance and expression of the human gene in animal cells. Cell 45: 685-698.
2. Massagué, J., Cheifetz, S., Ignotz, R.A. and Boyd, F.T. 1987. Multiple type-β transforming growth factors and their receptors. J. Cell. Physiol. Suppl. 5: 43-47.
3. Massagué, J. 1990. The transforming growth factor-β family. Annu. Rev. Cell Biol. 6: 597-641.
4. Behringer, R.R. 1994. The *in vivo* roles of Mullerian-inhibiting substance. Curr. Top. Dev. Biol. 29: 171-187.
5. Imbeaud, S., Carré-Eusèbe, D., Rey, R., Belville, C., Josso, N. and Picard, J.Y. 1994. Molecular genetics of the persistent Mullerian duct syndrome: a study of 19 families. Hum. Mol. Genet. 3: 125-131.

CHROMOSOMAL LOCATION

Genetic locus: AMH (human) mapping to 19p13.3.

SOURCE

MIS (A-9) is a mouse monoclonal antibody raised against amino acids 46-345 mapping within an internal region of MIS 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.

STORAGE

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

APPLICATIONS

MIS (A-9) is recommended for detection of MIS of 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 MIS siRNA (h): sc-39793, MIS shRNA Plasmid (h): sc-39793-SH and MIS shRNA (h) Lentiviral Particles: sc-39793-V.

Molecular Weight of MIS: 70/74 kDa.

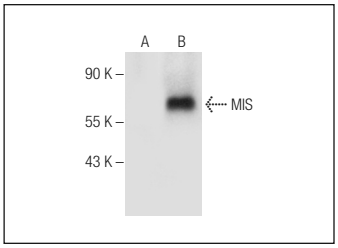
Molecular Weight of unreduced MIS: 140 kDa.

Positive Controls: MIS (h): 293 Lysate: sc-111265.

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



MIS (A-9): sc-377140. Western blot analysis of MIS expression in non-transfected: sc-110760 (**A**) and human MIS transfected: sc-111265 (**B**) 293 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Chen, X., Zheng, Y., Li, X., Gao, Q., Feng, T., Zhang, P., Liao, M., Tian, X., Lu, H. and Zeng, W. 2020. Profiling of miRNAs in porcine Sertoli cells. J. Anim. Sci. Biotechnol. 11: 85.

RESEARCH USE

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

CONJUGATES

See **MIS (B-11): sc-166752** for MIS antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.