SANTA CRUZ BIOTECHNOLOGY, INC.

MIS (m): 293 Lysate: sc-178938

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., 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. Massague, J., et al. 1987. Multiple type β transforming growth factors and their receptors. J. Cell. Physiol. Suppl. 5: 43-47.
3. Massague, 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., et al. 1994. Molecular genetics of the persistent Mullerian duct syndrome: a study of 19 families. Hum. Mol. Genet. 3: 125-131.
6. McPherron, A.C., et al. 1997. Regulation of skeletal muscle mass in mice by a new TGFβ superfamily member. Nature 387: 83-90.

CHROMOSOMAL LOCATION

Genetic locus: Amh (mouse) mapping to 10 C1.

PRODUCT

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

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.

PROTOCOLS

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

APPLICATIONS

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

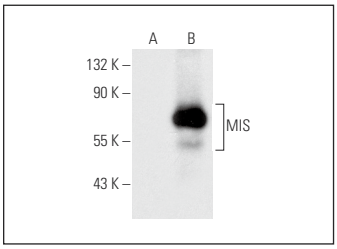
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

MIS (B-9): sc-365643 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse MIS expression in MIS transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



MIS (B-9): sc-365643. Western blot analysis of MIS expression in non-transfected: sc-110760 (**A**) and mouse MIS transfected: sc-178938 (**B**) 293 whole cell lysates.

RESEARCH USE

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