

MIER3 (L-25): sc-102024

BACKGROUND

The mesoderm induction early response (MIER) protein family is also known as fibroblast growth factor (FGF)-regulated immediate-early protein family. Activated by FGF, it is likely that the MIER proteins may play a significant role in FGF-regulated cellular activities, suggesting a potential influence in the progression of certain cancers. MIER proteins contain one SANT domain, a domain that has been characterized to be involved in transcriptional activation and repression, and one ELM2 domain, a domain which was first characterized in EGL-27, a gene that is critically involved in embryonic patterning of *C. elegans*. Mesoderm induction early response protein 3 (MIER3) is a 550 amino acid protein that is localized to the nucleus and primarily functions as a transcriptional repressor. There are five known isoforms of MIER3 that are produced as a result of alternative splicing.

REFERENCES

1. Paterno, G.D., et al. 1997. cDNA cloning of a novel, developmentally regulated immediate early gene activated by fibroblast growth factor and encoding a nuclear protein. *J. Biol. Chem.* 272: 25591-25595.
2. Paterno, G.D., et al. 1998. Molecular cloning of human ER1 cDNA and its differential expression in breast tumours and tumour-derived cell lines. *Gene* 222: 77-82.
3. Paterno, G.D., et al. 2002. Genomic organization of the human MIER1 gene and characterization of alternatively spliced isoforms: regulated use of a facultative intron determines subcellular localization. *Gene* 295: 79-88.
4. Ding, Z., et al. 2003. Human MIER1 α and β function as transcriptional repressors by recruitment of histone deacetylase 1 to their conserved ELM2 domain. *Mol. Cell. Biol.* 23: 250-258.
5. Ding, Z., et al. 2004. The SANT domain of human MIER1 interacts with Sp1 to interfere with GC box recognition and repress transcription from its own promoter. *J. Biol. Chem.* 279: 28009-28016.
6. Thorne, L.B., et al. 2005. Cloning and characterization of the mouse ortholog of MIER1. *DNA Seq.* 16: 237-240.
7. Post, J.N., et al. 2005. Developmentally regulated cytoplasmic retention of the transcription factor XMIER1 requires sequence in the acidic activation domain. *Int. J. Biochem. Cell Biol.* 37: 463-477.
8. Blackmore, T.M., et al. 2008. The transcriptional cofactor MIER1- β negatively regulates histone acetyltransferase activity of the CREB-binding protein. *BMC Res. Notes* 1: 68.

CHROMOSOMAL LOCATION

Genetic locus: MIER3 (human) mapping to 5q11.2.

STORAGE

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

PROTOCOLS

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

SOURCE

MIER3 (L-25) is a purified rabbit polyclonal antibody raised against MIER3 of human origin.

PRODUCT

Each vial contains 50 μ g IgG in 500 μ l PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

MIER3 (L-25) is recommended for detection of MIER3 of human and dog origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MIER3 siRNA (h): sc-91893, MIER3 shRNA Plasmid (h): sc-91893-SH and MIER3 shRNA (h) Lentiviral Particles: sc-91893-V.

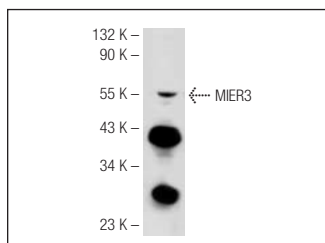
Molecular Weight of MIER3: 61 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or Jurkat nuclear extract: sc-2132.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



MIER3 (L-25): sc-102024. Western blot analysis of MIER3 expression in Jurkat nuclear extract.

RESEARCH USE

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