

Pem (M-15): sc-21650

BACKGROUND

Pem, for placenta and embryonic expression gene, is a homeobox transcription factor also known as OY-MS-4. Pem colocalizes with Gpbox and Psxl, which are two other members of the homeobox gene family. Pem is an intracellular hydrophilic protein that is expressed in a stage specific manner during murine ontogeny. The mouse Pem gene maps to chromosome X and encodes a 210 amino acid protein. Pem shows primarily nuclear, but occasional cytoplasmic, localization. This homeodomain protein may regulate androgen-dependent events in testis and epididymous and may play a role in spermatogenesis, indicating Pem as a member of the cancer/testis family. Pem is expressed in mouse embryo, testis, Sertoli cells, seminiferous tubules, undifferentiated embryo stem (ES) and embryonal carcinoma (EC) cell lines. Specifically, Pem expression in Sertoli cells occurs selectively during the androgen-dependent stage of the seminiferous epithelium cycle.

REFERENCES

1. Wilkinson, M., et al. 1990. A novel oncofetal gene is expressed in a stage-specific manner in murine embryonic development. *Dev. Biol.* 146: 451-455.
2. Sasaki, A., et al. 1991. The oncofetal gene Pem encodes a homeodomain and is regulated in promordial and pre-muscle stem cells. *Mech. Dev.* 34: 155-164.
3. Sutton, K., et al. 1998. Androgen regulation of the Pem homeodomain gene in mice and rat Sertoli and epididymal cells. *J. Androl.* 19: 21-30.
4. Ono, T., et al. 2000. Serological analysis of BALB/C methycolanthrene sarcoma MethA by SEREX: identification of a cancer/testis antigen. *Int. J. Cancer* 88: 845-851.
5. Barbulescu, K., et al. 2001. New androgen response elements in the murine pem promoter mediate selective transactivation. *Mol. Endocrinol.* 15: 1803-1816.
6. Takasaki, N., et al. 2001. Normal gonadal development in mice lacking GPBOX, a homeodomain protein expressed in germ cells at the onset of sexual dimorphism. *Mol. Cell. Biol.* 21: 8197-8202.
7. Lemmens, I., et al. 2001. Menin interacts directly with the homeobox-containing protein Pem. *Biochem. Biophys. Res. Commun.* 17: 426-431.
8. Ono, T., et al. 2001. Identification of proacrosin binding protein sp32 precursor as a human cancer/testis antigen. *Proc. Natl. Acad. Sci. USA* 98: 3282-3287.
9. LocusLink Report (LocusID: 18617). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: Rhox5 (mouse) mapping to X.

SOURCE

Pem (M-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Pem of mouse origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-21650 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

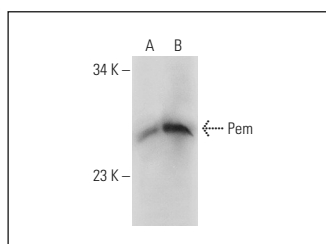
Pem (M-15) is recommended for detection of Pem of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Positive Controls: I-11.15 whole cell lysate: sc-364370 or C3H/10T1/2 cell lysate: sc-3801.

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Pem (M-15): sc-21650. Western blot analysis of Pem expression in I-11.15 (A) and C3H/10T1/2 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Hammami, I., et al. 2009. Chronic crude garlic-feeding modified adult male rat testicular markers: mechanisms of action. *Reprod. Biol. Endocrinol.* 7: 65.

STORAGE

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