

# Isthmin (F-18): sc-139501

## BACKGROUND

Isthmin, also known as Ism or Ism1, is a 454 amino acid secreted protein belonging to the Isthmin family. Isthmin contains an AMOP motif and a thrombospondin type-1 domain, the latter of which is shared by several mammalian proteins with diverse biological functions, including cell adhesion, angiogenesis and patterning of developing nervous system. Isthmin has also been identified as a novel angiogenesis inhibitor of tumor growth in mice. The gene encoding Isthmin is located on mouse chromosome 2 and human chromosome 20. Human chromosome 20 is comprised of approximately 2% of the human genome and contains nearly 63 million bases that encode over 600 genes, some of which are associated with Creutzfeldt-Jakob disease, amyotrophic lateral sclerosis, spinal muscular atrophy, ring chromosome 20 epilepsy syndrome and Alagille syndrome. Additionally, chromosome 20 contains a region with numerous genes which are thought important for seminal production and may be potential targets for male contraception.

## REFERENCES

- Hayashi, S., et al. 2004. Expression patterns of *Xenopus* FGF receptor-like 1/nou-darake in early *Xenopus* development resemble those of planarian nou-darake and *Xenopus* FGF8. *Dev. Dyn.* 230: 700-707.
- Rossi, V., et al. 2004. TAIL1: an isthmin-like gene, containing type 1 thrombospondin-repeat and AMOP domain, mapped to ARVD1 critical region. *Gene* 335: 101-108.
- Elghezal, H., et al. 2007. Ring chromosome 20 syndrome without deletions of the subtelomeric and CHRNA4-KCNQ2 genes loci. *Eur. J. Med. Genet.* 50: 441-445.
- Lundwall, A. 2007. A locus on chromosome 20 encompassing genes that are highly expressed in the epididymis. *Asian J. Androl.* 9: 540-544.
- Xiang, W., et al. 2009. Isthmin is a novel secreted angiogenesis inhibitor that inhibits tumor growth in mice. *J. Cell. Mol. Med.* 15: 359-374.

## CHROMOSOMAL LOCATION

Genetic locus: ISM1 (human) mapping to 20p12.1.

## SOURCE

Isthmin (F-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of Isthmin of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-139501 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

Isthmin (F-18) is recommended for detection of Isthmin of human and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Isthmin siRNA (h): sc-156174, Isthmin shRNA Plasmid (h): sc-156174-SH and Isthmin shRNA (h) Lentiviral Particles: sc-156174-V.

## 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) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.