

# Asporin (I-14): sc-70119

## BACKGROUND

Asporin, also known as periodontal ligament-associated protein 1 (PLAP-1), is a 380 amino acid protein belonging to the small leucine-rich proteoglycan (SLRP) family. Asporin was named to reflect the unique aspartate-rich N-terminus and the overall sequence similarity to decorin. Asporin has an N-glycosylation site and a O-glycosylation site, but, unlike decorin and biglycan, lacks the Ser-Gly dipeptide sequence required for O-linked glycosaminoglycan attachment, which indicates that Asporin is not a proteoglycan. Asporin is a secreted protein that contains 12 leucine-rich (LRR) repeats and has highest levels of expression in aorta, uterus and osteoarthritic articular cartilage. An association between a polymorphism in the N-terminal aspartic acid repeat and osteoarthritis has been found. The same polymorphism in the aspartic acid repeat of Asporin has also been linked to lumbar disc degeneration.

## REFERENCES

1. Yamada, S., et al. 2001. Expression profile of active genes in human periodontal ligament and isolation of PLAP-1, a novel SLRP family gene. *Gene* 275: 279-286.
2. Lorenzo, P., et al. 2001. Identification and characterization of Asporin. A novel member of the leucine-rich repeat protein family closely related to Decorin and Biglycan. *J. Biol. Chem.* 276: 12201-12211.
3. Henry, S.P., et al. 2001. Expression pattern and gene characterization of Asporin. A newly discovered member of the leucine-rich repeat protein family. *J. Biol. Chem.* 276: 12212-12221.
4. Stratil, A., et al. 2006. Porcine OGN and ASPN: mapping, polymorphisms and use for quantitative trait loci identification for growth and carcass traits in a Meishan x Piétrain intercross. *Anim. Genet.* 37: 415-418.
5. Yamada, S., et al. 2006. Regulation of PLAP-1 expression in periodontal ligament cells. *J. Dent. Res.* 85: 447-451.
6. Jiang, Q., et al. 2006. Replication of the association of the aspartic acid repeat polymorphism in the Asporin gene with knee-osteoarthritis susceptibility in Han Chinese. *J. Hum. Genet.* 51: 1068-1072.
7. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 603932. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: ASPN (human) mapping to 9q22.31; Aspn (mouse) mapping to 13 A5.

## SOURCE

Asporin (I-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Asporin of human origin.

## 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-70119 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Asporin (I-14) is recommended for detection of Asporin of mouse, rat and human 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).

Asporin (I-14) is also recommended for detection of Asporin in additional species, including canine and porcine.

Suitable for use as control antibody for Asporin siRNA (h): sc-72568, Asporin siRNA (m): sc-72569, Asporin shRNA Plasmid (h): sc-72568-SH, Asporin shRNA Plasmid (m): sc-72569-SH, Asporin shRNA (h) Lentiviral Particles: sc-72568-V and Asporin shRNA (m) Lentiviral Particles: sc-72569-V.

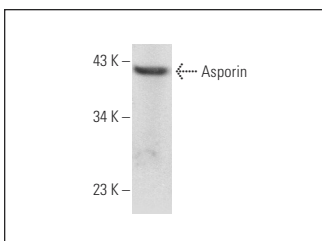
Molecular Weight of Asporin: 39 kDa.

Positive Controls: human uterus extract: sc-363784.

## 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941.

## DATA



Asporin (I-14): sc-70119. Western blot analysis of Asporin expression in human uterus tissue extract.

## STORAGE

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

## 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.