

# ASTL (K-15): sc-107342

## BACKGROUND

ASTL (astacin-like metalloendopeptidase), also known as ovastacin, is a 435 amino acid protein that belongs to the astacin family of metalloproteases. The human ASTL, which shares a 78% sequence identity with mouse ASTL, contains an N-terminal signal peptide, a prodomain, a zinc-dependent metalloprotease domain and a C-terminal extension that is likely to be heavily O-glycosylated. Highly expressed in unfertilized oocytes, ASTL expression drops to undetectable levels upon fertilization. ASTL has also been shown to be under hormonal regulation, as superovulation caused a dramatic increase in the expression of ASTL. The catalytic activity of ASTL is inhibited by EDTA and the wide spectrum metalloproteinase inhibitor batimastat (BB-94). The gene encoding ASTL maps to chromosome 2q11.2. Two isoforms of ASTL2 exist as a result of alternative splicing events.

## REFERENCES

1. Stöcker, W., Gomis-Rüth, F.X., Bode, W. and Zwilling, R. 1993. Implications of the three-dimensional structure of astacin for the structure and function of the astacin family of zinc-endopeptidases. *Eur. J. Biochem.* 214: 215-231.
2. Bond, J.S. and Beynon, R.J. 1995. The astacin family of metalloendopeptidases. *Protein Sci.* 4: 1247-1261.
3. Quesada, V., Sánchez, L.M., Alvarez, J. and López-Otín, C. 2004. Identification and characterization of human and mouse ovastacin: a novel metalloproteinase similar to hatching enzymes from arthropods, birds, amphibians, and fish. *J. Biol. Chem.* 279: 26627-26634.
4. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608860. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Semenova, S.A. and Rudenskaia, G.N. 2008. The astacin family of metalloproteinases. *Biomed. Khim.* 54: 531-554.
6. Sterchi, E.E. 2008. Special issue: metzincin metalloproteinases. *Mol. Aspects Med.* 29: 255-257.
7. Sterchi, E.E., Stöcker, W. and Bond, J.S. 2008. Meprins, membrane-bound and secreted astacin metalloproteinases. *Mol. Aspects Med.* 29: 309-328.
8. Becker-Pauly, C., Bruns, B.C., Damm, O., Schütte, A., Hammouti, K., Burmester, T. and Stöcker, W. 2009. News from an ancient world: two novel astacin metalloproteases from the horseshoe crab. *J. Mol. Biol.* 385: 236-248.

## CHROMOSOMAL LOCATION

Genetic locus: Astl (mouse) mapping to 2 F1.

## SOURCE

ASTL (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ASTL of mouse origin.

## STORAGE

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

## 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-107342 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ASTL (K-15) is recommended for detection of ASTL of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

ASTL (K-15) is also recommended for detection of ASTL in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for ASTL siRNA (m): sc-141309, ASTL shRNA Plasmid (m): sc-141309-SH and ASTL shRNA (m) Lentiviral Particles: sc-141309-V.

Molecular Weight of ASTL: 46 kDa.

## CRECOMMENDED 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) 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.

## 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.



Try **ASTL (D-8): sc-514054** or **ASTL (F-10): sc-514391**, our highly recommended monoclonal alternatives to ASTL (K-15).