

Bikunin (A-15): sc-21599

BACKGROUND

The AMBP (α -1-Microglobulin/bikunin precursor) gene encodes a protein precursor, known as AMBP, that is cleaved to produce two distinct proteins, designated a-1-micro-globulin and Bikunin. Inter- α -inhibitor ($I\alpha I$) is a serine proteinase inhibitor found in high concentrations in human plasma. $I\alpha I$ is composed of Bikunin, a light inhibitory chain, and two heavy chains. Bikunin (inter- α -trypsin inhibitor light chain, ITI-LC or urinary trypsin inhibitor) is covalently linked to two heavy chains that, after tissular diffusion, stabilize the extracellular matrix. Bikunin exerts antiproteinase activity and other anti-inflammatory functions. Bikunin is expressed in various human tissues such as kidney, heart, liver, lung and pancreas and is stored in the granules of human connective tissue mast cells. Bikunin is expressed on the surface of pancreatic acinar cells and may play an important role in preventing autolysis by exocrine enzymes such as trypsinogen and chymotrypsinogen. Bikunin is a potent inhibitor of calcium oxalate crystallization and has been implicated in various renal diseases, including urolithiasis.

REFERENCES

1. Itoh, H., Tomita, M., Kobayashi, T., Uchino, H., Maruyama, H. and Nawa, Y. 1996. Expression of inter-alpha-trypsin inhibitor light chain (bikunin) in human pancreas. *J. Biochem.* 120: 271-275.
2. Olsen, E.H., Rahbek-Nielsen, H., Thøgersen, I.B., Roepstorff, P. and Engild, J.J. 1998. Posttranslational modifications of human inter-alpha-inhibitor: identification of glycans and disulfide bridges in heavy chains 1 and 2. *Biochemistry* 37: 408-416.
3. Dawson, C.J., Grover, P.K., Kanellos, J., Pham, H., Kupczyk, G., Oates, A. and Ryall, R.L. 1998. Inter- α -inhibitor in calcium stones. *Clin. Sci.* 95: 187-193.
4. Ide, H., Itoh, H., Yoshida, E., Kobayashi, T., Tomita, M., Maruyama, H., Osada, Y., Nakahata, T. and Nawa, Y. 1999. Immunohistochemical demonstration of inter- α -trypsin inhibitor light chain (bikunin) in human mast cells. *Cell Tissue Res.* 297: 149-154.
5. Atmani, F., Glenton, P.A. and Khan, S.R. 1999. Role of inter-alpha-inhibitor and its related proteins in experimentally induced calcium oxalate urolithiasis. Localization of proteins and expression of bikunin gene in the rat kidney. *Urol. Res.* 27: 63-67.
6. Balduyck, M., Albani, D., Jourdain, M., Mizon, C., Tournoy, A., Drobecq, H., Fourrier, F. and Mizon, J. 2000. Inflammation-induced systemic proteolysis of inter-alpha-inhibitor in plasma from patients with sepsis. *J. Lab. Clin. Med.* 135: 188-198.

CHROMOSOMAL LOCATION

Genetic locus: *Ambp* (mouse) mapping to 4 B3.

SOURCE

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

RESEARCH USE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-21599 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Bikunin (A-15) is recommended for detection of AMBP and Bikunin 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).

Bikunin (A-15) is also recommended for detection of AMBP and Bikunin in additional species, including equine.

Suitable for use as control antibody for AMBP siRNA (m): sc-39553, AMBP shRNA Plasmid (m): sc-39553-SH and AMBP shRNA (m) Lentiviral Particles: sc-39553-V.

Molecular Weight of Bikunin: 30 kDa.

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) 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.

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.