SANTA CRUZ BIOTECHNOLOGY, INC.

Bikunin (3F1): sc-517024

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 α-1-Microglobulin and Bikunin. Inter-α-inhibitor (IαI) is a serine proteinase inhibitor found in high concentrations in human plasma. IαI 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 autodigestion 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., et al. 1996. Expression of inter-α-trypsin inhibitor light chain (bikunin) in human pancreas. J. Biochem. 120: 271-275.
2. Olsen, E.H., et al. 1998. Posttranslational modifications of human inter-α-inhibitor: identification of glycans and disulfide bridges in heavy chains 1 and 2. Biochemistry 37: 408-416.
3. Dawson, C.J., et al. 1998. Inter-α-inhibitor in calcium stones. Clin. Sci. 95: 187-193.
4. Ide, H., et al. 1999. Immunohistochemical demonstration of inter-α-trypsin inhibitor light chain (bikunin) in human mast cells. Cell Tissue Res. 297: 149-154.
5. Atmani, F., et al. 1999. Role of inter-α-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., et al. 2000. Inflammation-induced systemic proteolysis of inter-α-inhibitor in plasma from patients with sepsis. J. Lab. Clin. Med. 135: 188-198.

CHROMOSOMAL LOCATION

Genetic locus: AMBP (human) mapping to 9q32.

SOURCE

Bikunin (3F1) is a mouse monoclonal antibody raised against amino acids 19-352 representing full length Bikunin of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Bikunin (3F1) is recommended for detection of Bikunin of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for AMBP siRNA (h): sc-39552, AMBP shRNA Plasmid (h): sc-39552-SH and AMBP shRNA (h) Lentiviral Particles: sc-39552-V.

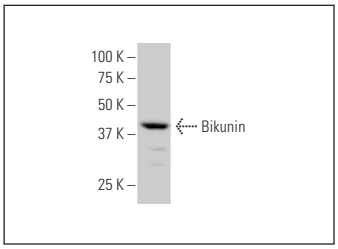
Molecular Weight of Bikunin: 30 kDa.

Positive Controls: A549 cell lysate: sc-2413.

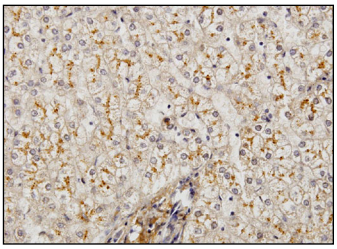
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Bikunin (3F1): sc-517024. Western blot analysis of Bikunin expression in A549 whole cell lysate.



Bikunin (3F1): sc-517024. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing extracellular staining and cytoplasmic staining of bile duct cells.

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 for detailed protocols and support products.