# SANTA CRUZ BIOTECHNOLOGY, INC.

# AMBP (532): sc-81948



### BACKGROUND

The AMBP ( $\alpha$ -1-Microglobulin/Bikunin precursor) gene encodes a protein precursor, known as AMBP, that is cleaved to produce two distinct proteins, designated  $\alpha$ -1-Microglobulin and Bikunin.  $\alpha$ -1-Microglobulin, also known as protein HC, is a member of the lipocalin superfamily and is secreted mainly in plasma, urine and cerebrospinal fluid. Thought to have reductase/dehydrogenase activity,  $\alpha$ -1-Microglobulin exhibits immunosuppressive properties, such as cytokine secretion and inhibition of antigen-induced lymphocyte cell proliferation, and may be involved in the reduction of biological prooxidants. The second protein cleavage product, designated Bikunin and also known as inter-a-trypsin inhibitor light chain, ITI-LC or urinary trypsin inhibitor, is a widely expressed protein that is stored in the granules of human connective tissue mast cells. One of many proteins in the Kunitz-type protease inhibitor family, Bikunin prevents autodigestion by exocrine enzymes, such as trypsinogen and chymo-trypsinogen, and plays a role in the anti-inflammatory/antiproteinase immune response. Unlike  $\alpha$ -1-Microglobulin, Bikunin is implicated in the pathogenesis of a number of renal diseases, such as 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.
- 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- $\alpha$ -inhibitor in calcium stones. Clin. Sci. 95: 187-193.
- 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.
- 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- $\alpha$ -inhibitor in plasma from patients with sepsis. J. Lab. Clin. Med. 135: 188-198.

# CHROMOSOMAL LOCATION

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

# SOURCE

AMBP (532) is a mouse monoclonal antibody raised against recombinant AMBP of human origin.

### PRODUCT

Each vial contains 100  $\mu g~lgG_1$  in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

#### **APPLICATIONS**

AMBP (532) is recommended for detection of AMBP 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) 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 AMBP: 30 kDa.

Positive Controls: A549 cell lysate: sc-2413.

## DATA





AMBP (532): sc-81948. Western blot analysis of AMBP expression in A549 whole cell lysate.

AMBP (532): sc-81948. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing cytoplasmic localization.

#### **SELECT PRODUCT CITATIONS**

- Gertow, J., et al. 2017. Altered protein composition of subcutaneous adipose tissue in chronic kidney disease. Kidney Int. Rep. 2: 1208-1218.
- Hakuno, D., et al. 2018. Hepatokine α1-microglobulin signaling exacerbates inflammation and disturbs fibrotic repair in mouse myocardial infarction. Sci. Rep. 8: 16749.

#### **STORAGE**

Store at 4° C, \*\*D0 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 for detailed protocols and support products.