

α -1-Microglobulin (10A12): sc-135665

BACKGROUND

AMBIP (α -1-Microglobulin/Bikunin precursor) is a 352 amino acid protein that is proteolytically cleaved to produce three active peptides, designated α -1-Microglobulin, Bikunin and ITI-LC (inter- α -trypsin light chain). α -1-Microglobulin, also known as protein HC, is a 184 amino acid secreted peptide that exists as a monomer and is present in many physiological fluids, including urine, plasma and cerebrospinal fluid. Interacting with Fibronectin, α -1-Microglobulin belongs to the lipocalin family of transport proteins and may participate in the regulation of inflammatory processes, as well as in the autocatalytic creation of chromophores. The gene encoding the AMBP precursor maps to human chromosome 9, which houses over 900 genes and comprises nearly 4% of the human genome. Hereditary hemorrhagic telangiectasia, which is characterized by harmful vascular defects, and familial dysautonomia are both associated with chromosome 9. Notably, chromosome 9 encompasses the largest interferon family gene cluster.

REFERENCES

1. Traboni, C. and Cortese, R. 1986. Sequence of a full length cDNA coding for human protein HC (α -1-Microglobulin). *Nucleic Acids Res.* 14: 6340.
2. Vetr, H. and Gebhard, W. 1990. Structure of the human α -1-Microglobulin-Bikunin gene. *Biol. Chem. Hoppe Seyler* 371: 1185-1196.
3. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 176870. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Allhorn, M., et al. 2002. Processing of the lipocalin α -1-Microglobulin by hemoglobin induces heme-binding and heme-degradation properties. *Blood* 99: 1894-1901.
5. Sala, A., et al. 2004. Human α -1-Microglobulin is covalently bound to kynurenine-derived chromophores. *J. Biol. Chem.* 279: 51033-51041.
6. Olsson, M.G., et al. 2007. Up-regulation of α -1-Microglobulin by hemoglobin and reactive oxygen species in hepatoma and blood cell lines. *Free Radic. Biol. Med.* 42: 842-851.
7. Akerström, B., et al. 2007. The lipocalin α -1-Microglobulin has radical scavenging activity. *J. Biol. Chem.* 282: 31493-31503.
8. Kozak, M. and Grubb, A. 2007. SAXS studies of human protein HC (α -1-Microglobulin). *Protein Pept. Lett.* 14: 425-429.

CHROMOSOMAL LOCATION

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

SOURCE

α -1-Microglobulin (10A12) is a mouse monoclonal antibody raised against purified α -1-Microglobulin from plasma of human origin.

PRODUCT

Each vial contains IgG₁ in 100 μ l of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

α -1-Microglobulin (10A12) is recommended for detection of AMBP and α -1-Microglobulin of human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000), immunoprecipitation [1-2 μ l per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution to be determined by researcher, dilution range 1:30-1:5000).

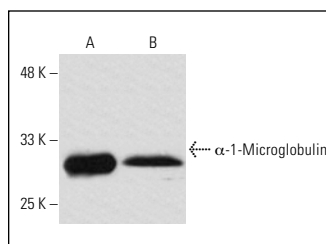
Suitable for use as control antibody for AMBP siRNA (h): sc-39552, AMBP shRNA Plasmid (h): sc-39552-SH and AMBP shRNA (h) Lentiviral Particles: sc-39552-V.

Molecular Weight of AMBP: 39 kDa.

Molecular Weight of α -1-Microglobulin: 23 kDa.

Positive Controls: human plasma extract: sc-364374.

DATA



α -1-Microglobulin (10A12): sc-135665. Western blot analysis of α -1-Microglobulin purified from human plasma (A) and in human plasma (B).

SELECT PRODUCT CITATIONS

1. Luczak, M., et al. 2011. Chronic kidney disease-related atherosclerosis-proteomic studies of blood plasma. *Proteome Sci.* 9: 25.
2. Hakuno, D., et al. 2018. Hepatokine α -1-Microglobulin signaling exacerbates inflammation and disturbs fibrotic repair in mouse myocardial infarction. *Sci. Rep.* 8: 16749.

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 for detailed protocols and support products.