SANTA CRUZ BIOTECHNOLOGY, INC.

ALB (AL-01): sc-51515

BACKGROUND

Serum albumin (ALB), the main protein in plasma, has a very good binding capacity for water, fatty acids, calcium, sodium, bilirubin, hormones, potassium and drugs. The primary function of ALB is to regulate the colloidal osmotic pressure of blood. Albumin is synthesized in the liver as preproalbumin, which has an N-terminal peptide that is removed before the nascent protein is released from the rough endoplasmic reticulum. The product, proalbumin, is in turn cleaved in the Golgi vesicles to produce the secreted form of albumin. Mutations in the ALB gene may result in familial dysalbuminemic hyperthyroxinemia (FDH), a form of euthyroid hyperthyroxinemia that is due to increased affinity of ALB for T4. FDH is the most common cause of inherited euthyroid hyperthyroxinemia in Caucasian populations.

REFERENCES

1. Ruiz, M., et al. 1982. Familial dysalbuminemic hyperthyroxinemia: a syndrome that can be confused with thyrotoxicosis. N. Engl. J. Med. 306: 635-639.
2. Angelisova, P., et al. 1986. The characteristics of monoclonal antibodies against human albumin. Folia Biol. 32: 289-294.
3. Bennett, P.H., et al. 1995. Screening and management of microalbuminuria in patients with diabetes mellitus: recommendations to the Scientific Advisory Board of the National Kidney Foundation from an ad hoc committee of the Council on Diabetes. Am. J. Kidney Dis. 25: 107-112.

CHROMOSOMAL LOCATION

Genetic locus: ALB (human) mapping to 4q13.3.

SOURCE

ALB (AL-01) is a mouse monoclonal antibody raised against fraction of proteins containing albumin purified from serum of human origin.

PRODUCT

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

APPLICATIONS

ALB (AL-01) is recommended for detection of ALB of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for ALB siRNA (h): sc-45606, ALB shRNA Plasmid (h): sc-45606-SH and ALB shRNA (h) Lentiviral Particles: sc-45606-V.

Molecular Weight of ALB: 66 kDa.

Positive Controls: human plasma extract: sc-364374, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

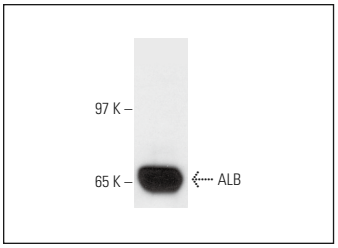
STORAGE

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

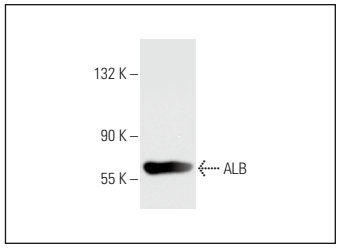
RESEARCH USE

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

DATA



ALB (AL-01): sc-51515. Western blot analysis of ALB expression in Hep G2 whole cell lysate.



ALB (AL-01): sc-51515. Western blot analysis of ALB expression in Hep G2 whole cell lysate.

SELECT PRODUCT CITATIONS

1. He, J., et al. 2010. Osteogenesis and trophic factor secretion are influenced by the composition of hydroxyapatite/poly(lactide-co-glycolide) composite scaffolds. Tissue Eng. Part A 16: 127-137.
2. Lund, T., et al. 2011. Fibrin(ogen) may be an important target for methylglyoxal-derived AGE modification in elastic arteries of humans. Diab. Vasc. Dis. Res. 8: 284-294.
3. Dwivedi, P.P., et al. 2013. Regulation of bone morphogenetic protein signalling and cranial osteogenesis by Gpc1 and Gpc3. Bone 55: 367-376.
4. Bell, C.C., et al. 2016. Characterization of primary human hepatocyte spheroids as a model system for drug-induced liver injury, liver function and disease. Sci. Rep. 6: 25187.
5. Jia, X., et al. 2017. Label-free proteomic analysis of exosomes derived from inducible hepatitis B virus-replicating HepAD38 cell line. Mol. Cell. Proteomics 16: S144-S160.
6. Yu, Y.B., et al. 2018. Differentiation of umbilical cord mesenchymal stem cells into hepatocytes in comparison with bone marrow mesenchymal stem cells. Mol. Med. Rep. 18: 2009-2016.
7. Fu, H., et al. 2019. Profiling of nuclear copper-binding proteins under hypoxic condition. Biometals 32: 329-341.
8. Weiss, L., et al. 2021. Nonvalvular atrial fibrillation patients anticoagulated with rivaroxaban compared with warfarin exhibit reduced circulating extracellular vesicles with attenuated pro-inflammatory protein signatures. J. Thromb. Haemost. 19: 2583-2595.
9. Brennan, K., et al. 2022. Extracellular vesicles isolated from plasma of multiple myeloma patients treated with daratumumab express CD38, PD-L1, and the complement inhibitory proteins CD55 and CD59. Cells 11: 3365.

CONJUGATES

See **ALB (F-10): sc-271605** for ALB antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.