SANTA CRUZ BIOTECHNOLOGY, INC.

ALS (E-2): sc-377131

BACKGROUND

The Insulin-like growth factor binding proteins, or IGFBPs, are a family of seven proteins that have co-evolved with the IGFs. IGFBPs serve as shuttle molecules for both IGF-I and IGF-II and confer a level of regulation to the IGF signaling system by influencing the bio-availability, concentration and distribution of IGFs in the extracellular environment. In human circulation, the IGF-binging protein complex requires ALS (IGFBP acid-labile subunit), an extracellular protein involved in receptor-ligand binding and cell adhesion. ALS, detected primarily in plasma, is involved in protein-protein interactions that result in the formation of protein complexes.

REFERENCES

1. Baxter, R.C., et al. 1989. High molecular weight Insulin-like growth factor binding protein complex. Purification and properties of the acid-labile subunit from human serum. J. Biol. Chem. 264: 11843-11848.
2. Leong, S.R., et al. 1992. Structure and functional expression of the acid-labile subunit of the Insulin-like growth factor-binding protein complex. Mol. Endocrinol. 6: 870-876.
3. Fischer, F., et al. 2004. Associations of Insulin-like growth factors, Insulin-like growth factor binding proteins and acid-labile subunit with coronary heart disease. Clin. Endocrinol. 61: 595-602.
4. de Boer, L., et al. 2004. Plasma Insulin-like growth factors (IGFs), IGF-binding proteins (IGFBPs), acid-labile subunit (ALS) and IGFBP3 proteolysis in individuals with clinical characteristics of Sotos syndrome. J. Pediatr. Endocrinol. Metab. 17: 615-627.
5. Payet, L.D., et al. 2004. The role of the acid-labile subunit in regulating Insulin-like growth factor transport across human umbilical vein endothelial cell monolayers. J. Clin. Endocrinol. Metab. 89: 2382-2389.

CHROMOSOMAL LOCATION

Genetic locus: IGFALS (human) mapping to 16p13.3.

SOURCE

ALS (E-2) is a mouse monoclonal antibody raised against amino acids 304-345 mapping within an internal region of ALS of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ALS (E-2) is available conjugated to agarose (sc-377131 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377131 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377131 PE), fluorescein (sc-377131 FITC), Alexa Fluor® 488 (sc-377131 AF488), Alexa Fluor® 546 (sc-377131 AF546), Alexa Fluor® 594 (sc-377131 AF594) or Alexa Fluor® 647 (sc-377131 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377131 AF680) or Alexa Fluor® 790 (sc-377131 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ALS (E-2) is recommended for detection of ALS of human origin by Western Blotting (starting dilution 1:100, 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 ALS siRNA (h): sc-60154, ALS shRNA Plasmid (h): sc-60154-SH and ALS shRNA (h) Lentiviral Particles: sc-60154-V.

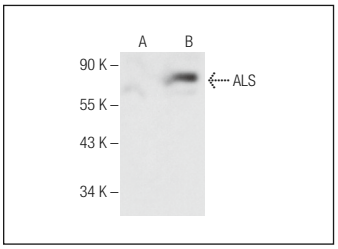
Molecular Weight of ALS: 66 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or ALS (h): 293T Lysate: sc-114036.

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, UltraCruz® Blocking Reagent: sc-516214 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



ALS (E-2): sc-377131. Western blot analysis of ALS expression in non-transfected: sc-117752 (**A**) and human ALS transfected: sc-114036 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kim, H., et al. 2022. Structural basis for assembly and disassembly of the IGF/IGFBP/ALS ternary complex. Nat. Commun. 13: 4434.
2. De Feo, A., et al. 2024. CD99 modulates the proteomic landscape of Ewing sarcoma cells and related extracellular vesicles. Int. J. Mol. Sci. 25: 1588.

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.