SANTA CRUZ BIOTECHNOLOGY, INC.

ALS siRNA (m): sc-60155

BACKGROUND

The Insulin-like growth factor binding proteins, 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 bioavailability, concentration and distribution of IGFs in the extracellular environment. In human circulation, the IGF-binding 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.
6. Lee, D.H., et al. 2005. Expression of porcine acid-labile subunit (pALS) of the 150 kDa ternary Insulin-like growth factor complex and initial characterization of recombinant pALS protein. J. Biochem. Mol. Biol. 38: 225-231.
7. Liu, T., et al. 2005. Human plasma N-glycoproteome analysis by immunoaffinity subtraction, hydrazide chemistry, and mass spectrometry. J. Proteome Res. 4: 2070-2080.

CHROMOSOMAL LOCATION

Genetic locus: Igfals (mouse) mapping to 17 A3.3.

PRODUCT

ALS siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ALS shRNA Plasmid (m): sc-60155-SH and ALS shRNA (m) Lentiviral Particles: sc-60155-V as alternate gene silencing products.

For independent verification of ALS (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-60155A, sc-60155B and sc-60155C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

ALS siRNA (m) is recommended for the inhibition of ALS expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ALS gene expression knockdown using RT-PCR Primer: ALS (m)-PR: sc-60155-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.