Data Sheet (Cat.No.TMPY-03499)

TargetMol

CARHSP1 Protein, Human, Recombinant (His)

General Information

Synonyms: CSDC1;calcium regulated heat stable protein 1, 24kDa;CRHSP-24

Protein Construction: A DNA sequence encoding the human CARHSP1(Q9Y2V2) (Met1-Ser147) was expressed with a polyhistidine tag at the N-terminus. Predicted N terminal: His

Species: Human

Expression Host: E. coli

Accession: Q9Y2V2

Molecular Weight: 17.7 kDa (predicted); 21 kDa (reducing conditions)

QC Testing

Biological Activity: Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.

Purity: > 85 % as determined by SDS-PAGE

Endotoxin: Please contact us for more information.

Formulation: Lyophilized from a solution filtered through a 0.22 μm filter, containing 50 mM Tirs, 10% Glycerol, 200 mM NaCl, pH 8.0.Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

CARHSP1 is a biomarker for diabetic complications. Adenovirus-mediated CARHSP1 overexpression and siRNA-mediated knockdown experiments were performed to characterize the role of CARHSP1 in the regulation of gluconeogenic gene expression. CARHSP1 is regulated by nutrient status in the liver and functions at the transcriptional level to negatively regulate gluconeogenic genes, including the glucose-6-phosphatase catalytic subunit (G6Pc) and phosphoenolpyruvate carboxykinase 1 (PEPCK1). In addition, it is found that CARHSP1 can

physically interact with peroxisome proliferator-activated receptor-α (PPARα) and inhibit its transcriptional activity. Both pharmacological and genetic ablations of PPARα attenuate the inhibitory effect of CARHSP1 on gluconeogenic gene expression in hepatocytes.

Reference

Wistow G. et al., 2002, Mol Vis. 8: 205-20.
Wishart MJ. et al., 2002, Proc Natl Acad Sci. 99 (4): 2112-7.
Groblewski GE. et al., 1998, J Biol Chem. 273 (35): 22738-44.
Fan Y. et al., 2011, J Biol Chem. 286 (47): 40584-94.

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