Human RSPO3 / R-spondin 3 Protein (aa 1-146, His Tag)

Catalog Number: **11185-H08H1**

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

CRISTIN1; PWTSR; THSD2

Protein Construction:

A DNA sequence encoding the amino acids (Met 1-Val 146) of human RSPO3 (Q9BXY4-1) was fused with a polyhistidine tag at the C-terminus.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 96 % as determined by SDS-PAGE

Bio Activity:

1. Measured by its binding ability in a functional ELISA. 2. Immobilized RSPO3-His (146) at 10 μg/mL (100 μL/well) can bind human RNF43-Fc (Cat:16108-H02H). The EC_{50} of human RNF43-Fc is 0.01-0.03μg/mL.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Gln 22

Molecular Mass:

The recombinant human RSPO3 consists of 136 amino acids and predictes a molecular mass of 15.3 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rh RSPO3 is approximately 22-27 kDa due to different glycosylation.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

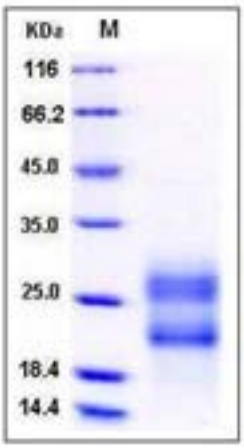
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

R-spondin 3 (RSPO3) is a member of the R-Spondin (RSPO) family in vertebrates that activate Wnt/beta-catenin signaling, plays a key role in these processes. The RSPO family of secreted Wnt modulators is involved in development and disease and holds therapeutic promise as stem cell growth factors. The four members have high structural homology. RSPO2 and RSPO3 are more potent than RSPO1, whereas RSPO4 is relatively inactive. All RSPO members require Wnt ligands and LRP6 for activity and amplify signaling of Wnt3A, Wnt1, and Wnt7A, suggesting that RSPO proteins are general regulators of canonical Wnt signaling. RSPO3/PCP signaling during gastrulation requires Wnt5a and is transduced via Fz7, Dvl, and JNK. RSPO3 functions by inducing Sdc4-dependent, clathrin-mediated endocytosis. RSPO3 is a novel, evolutionarily conserved angiogenic factor in embryogenesis. RSPO3 has a key role in the interaction between chorion and allantois in labyrinthine development.

References

1.Aoki M, *et al.* (2007) R-spondin3 is required for mouse placental development. Dev Biol. 301(1): 218-26. 2.Kazanskaya O, *et al.* (2008) The Wnt signaling regulator R-spondin 3 promotes angioblast and vascular development. Development. 135(22): 3655-64. 3.Kim KA, *et al.* (2008) R-Spondin family members regulate the Wnt pathway by a common mechanism. Mol Biol Cell. 19(6): 2588-96.