

**Synonym**

RSPO3,CRISTIN1,PWTSR,THSD2

**Source**

Human R-Spondin 3 (22-146), His Tag (RS6-H5222) is expressed from human 293 cells (HEK293). It contains AA Gln 22 - Val 146 (Accession # [AAH22367.1](#)).

Predicted N-terminus: Gln 22

**Molecular Characterization**

R-Spondin 3(Gln 22 - Val 146)  
AAH22367.1 Poly-his

This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 15.9 kDa. The protein migrates as 16 kDa and 19-21 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

**Endotoxin**

Less than 1.0 EU per µg by the LAL method.

**Purity**

&gt;90% as determined by SDS-PAGE.

**Formulation**

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4. Normally trehalose is added as protectant before lyophilization.

Contact us for customized product form or formulation.

**Reconstitution**

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

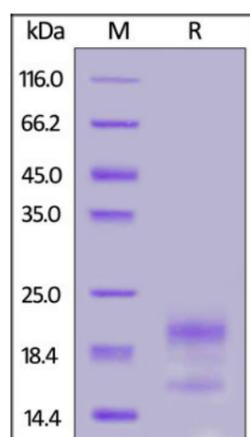
**Storage**

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

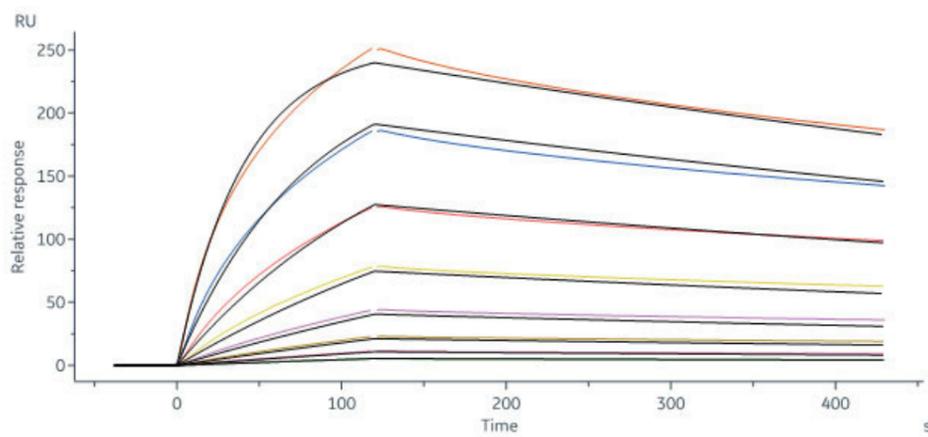
This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

**SDS-PAGE**

Human R-Spondin 3 (22-146), His Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 90%.

**Bioactivity-SPR**



Human R-Spondin 3 (22-146), His Tag (Cat. No. RS6-H5222) with immobilized on CM5 Chip can bind Human LGR5, His Tag (Cat. No. LG5-H52H3) with an affinity constant of 18.6 nM as determined in a SPR assay (Biacore 8K) (Routinely tested).

### Background

R-Spondin 3 (RSPO3) is also called cysteine-rich and single thrombospondin domain containing-1 (CRISTIN1), Protein with TSP type-1 repeat (PWTSR), is a member of the R-spondin protein family. R-spondins (RSPO) are a recently discovered secretory protein family with four members in human and mouse. Although all four RSPO proteins activate the canonical Wnt pathway, RSPO2 and RSPO3 are more potent than RSPO1, whereas RSPO4 is relatively inactive. RSPO-3 is expressed ubiquitously and expressed at higher level in placenta, small intestine, fetal thymus and lymph node. RSPO3 is the activator of the beta-catenin signaling cascade, leading to TCF-dependent gene activation. RSPO3 acts both in the canonical Wnt/beta-catenin-dependent pathway and in non-canonical Wnt signaling pathway, probably by acting as an inhibitor of ZNRF3, an important regulator of the Wnt signaling pathway. RSPO3 also acts as a ligand for frizzled FZD8 and LRP6 and may negatively regulate the TGF-beta pathway.

### Clinical and Translational Updates

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.