

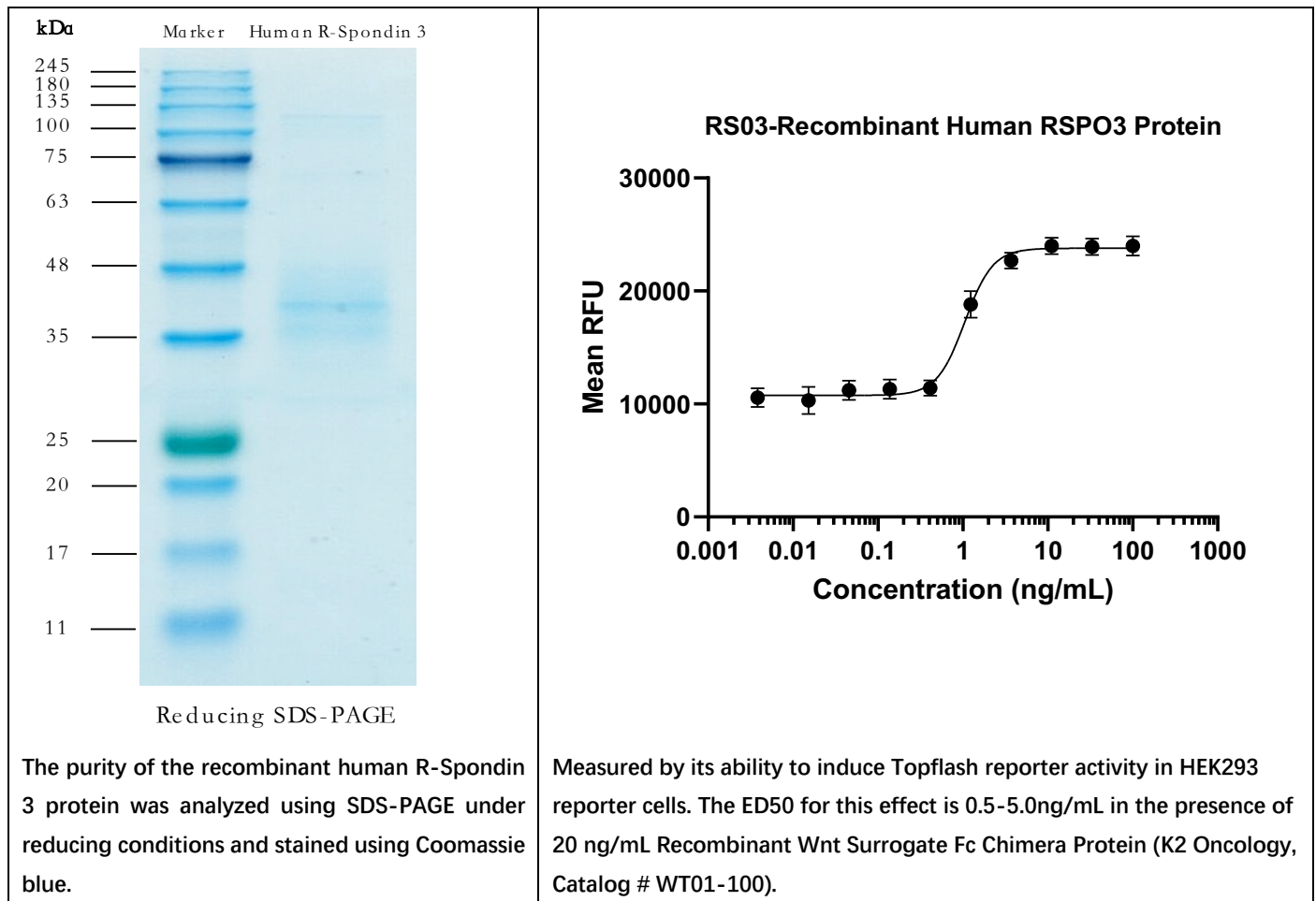
## Recombinant Human R-Spondin 3 Protein

Cat. No.: RS03-100                      Size: 100µg  
 Cat. No.: RS03-1000                    Size: 1mg (500µg\*2)

### Product Specifications

Source:	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td colspan="2" style="text-align: center;">Human R-Spondin 3 (Gln22-His272) Accession # Q9BXY4</td> </tr> <tr> <td style="text-align: center;">N-terminus</td> <td style="text-align: center;">C-terminus</td> </tr> </table> <p>Human HEK293 cell line, HEK293-derived human R-Spondin 3 protein.</p>	Human R-Spondin 3 (Gln22-His272) Accession # Q9BXY4		N-terminus	C-terminus
Human R-Spondin 3 (Gln22-His272) Accession # Q9BXY4					
N-terminus	C-terminus				
Accession:	<a href="#">Q9BXY4</a>				
Purity:	>90%, by SDS-PAGE under reducing conditions.				
Endotoxin Level:	<0.10 EU/µg of the protein by the LAL method.				
Activity:	Measured by its ability to induce Topflash reporter activity in HEK293 reporter cells. The ED <sub>50</sub> for this effect is 0.5-5.0ng/mL in the presence of 20 ng/mL Recombinant Wnt Surrogate Fc Chimera Protein (K2 Oncology, Catalog # WT01-100).				
Structure:	Monomer				
Predicted Molecular Weight	28.3 kDa (monomer).				
SDS-PAGE	36-48 kDa, reducing conditions.				
Sterile:	0.22µm sterile filtration.				
Product Form:	Lyophilized powder.				
Shipping & Storage:	<p>The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below:</p> <ul style="list-style-type: none"> <li>➤ To the date of expiration, -20°C to -80°C as supplied.</li> <li>➤ 3 months, -20°C to -80°C under sterile conditions after reconstitution.</li> <li>➤ 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> </ul> <p><b>Avoid repeated freeze-thaw cycles.</b></p>				

## Scientific Data



## Product Background:

R-Spondin 3 (RSPO3), also known as Cristin 1 or roof plate-specific spondin 3, is a secreted protein with a molecular weight of approximately 36 kDa. It shares around 40% amino acid identity with other members of the R-Spondin family. All R-Spondins act as positive modulators of Wnt/ $\beta$ -catenin signaling, but each exhibits a distinct expression pattern. RSPO3, like other R-Spondins, contains two adjacent cysteine-rich furin-like domains (amino acids 35-135), a potential N-glycosylation site (amino acid 36), a thrombospondin (TSP-1) motif (amino acids 147-207), and a region rich in basic residues (amino acids 211-269). The furin-like domains are sufficient for stabilizing  $\beta$ -catenin. RSPO3 shares high amino acid sequence identity within amino acids 21-209 with mouse, rat, equine, bovine, and canine RSPO3 (93%, 92%, 97%, 96%, and 92% identity, respectively).

In mice, RSPO3 is crucial for the development of the placental labyrinthine layer, likely by promoting vascular development through VEGF expression. It is also essential for the expression of Gcm1, a placenta-specific transcription factor. RSPO3 is often expressed by or located near endothelial cells in mouse embryos. It is found in various regions, including the roof plate, tail, somites, otic vesicles, cephalic mesoderm, truncus arteriosus, atrioventricular canal of the developing heart, and developing limbs.

R-Spondins regulate Wnt/ $\beta$ -catenin signaling by competing with the Wnt antagonist DKK-1 for binding to the Wnt co-receptors LRP-6 and Kremen, thereby reducing DKK-1-mediated internalization.

## References:

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## RUO Statement:

*Recombinant Human R-Spondin 3 Protein for Research Use Only. It is not intended for diagnostic, therapeutic, or any other clinical applications.*

K2 Oncology Co. Ltd.

Tel: 010-56538985

E-mail: [info@k2oncology.com](mailto:info@k2oncology.com)

Address: Room 4-101, Build 3, Zone 3, JiuCheng Tech Park, No88 5th Jinghai Rd. BDA, Beijing, China