Technical Data Sheet

Recombinant human R-spondin 1 LR5 protein

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Lot Specific Information

Lot Number: **Lot Specific***

Total Protein: **Lot Specific***

*This information will be noted on the certificate of analysis that ships with this product.

Shelf Life

This product has a guaranteed shelf-life of one year from the date of customer receipt when stored as recommended.

Product Information

Catalog Number:	**RP053**
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Reported Applications:	Intestinal organoid culture Tumor organoid culture
Formulation:	Lyophilized, white powder
Endotoxin:	≤0.5 EU/mg, LAL assay
Purity:	≥95%; SDS-PAGE
Reconstitution:	Resuspend in 10 mM HCl (Reconstitution Buffer A) at >50 µg/ml. Once reconstituted, store in single-use aliquots to avoid freeze-thaw cycles. Store reconstituted protein at -20 °C to -80 °C for a maximum of 12 months or until the expiry date if sooner.
Sterility:	Sterile
Production:	Microbial. Expressed in E. coli
Molecular Weight:	13 kDa
Bioactivity Assay:	No significant difference between EC50 of reference and test lots
Mycoplasma:	Negative

Description

Recombinant human R-spondin 1 LR5 protein (RSPO-1) is an engineered form of R-spondin 1, a secreted activator of the canonical Wnt signaling pathway and ligand for the leucine-rich repeat-containing G-protein coupled receptors LGR4–6, designed with higher affinity for LGR5 and lower affinity for LGR4 to specifically target Wnt-3a signaling in the LGR5+ stem cell population of intestinal organoids. The protein comprises the two cysteine-rich, furin-like domains that are essential for activity in stem cell culture, and because it is produced in E. coli it is not glycosylated, ensuring reliable production of homogeneous protein and enhanced comparability between batches, since glycosylation is not required for R-spondin 1 extracellular signaling or stability. Recombinant R-spondin 1 is used extensively in adult stem cell-derived and intestinal organoid culture, hematopoietic stem cell specification and other iPSC culture systems, and this highly pure, biologically active LGR5-selective variant offers a refined tool for dissecting Wnt signaling in stem cell niches, making it a key reagent for organoid and stem cell research. This protein is optimized for in vivo and functional applications: low-endotoxin, tag-free, and carrier-free, supporting reproducible performance in demanding preclinical and bioactivity studies. A GMP-grade version of this protein is available for cell and gene therapy manufacturing. Contact us at customerservice@bioxcell.com for details. Species reactivity: human.

Storage

Store at the stock concentration at 4°C . **Do not freeze.**

It is not uncommon for a floccule or precipitate to appear during storage. The floccule is typically buffer salts precipitating out of solution or a small bit of protein aggregation. For information on how to remove floccules or precipitates see our FAQ's at https://bioxcell.com/faqs.

Store lyophilized protein between -20 °C and -80 °C until the date of expiry. Avoid freeze-thaw cycles

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