Technical Data Sheet

Recombinant human/mouse gremlin 1 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:	**RP041**
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Reported Applications:	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:	18 kDa
Bioactivity Assay:	No significant difference between EC50 of reference and test lots
Mycoplasma:	Negative

Description

Recombinant human/mouse gremlin 1 protein (GREM1, isoform-1) is a member of the bone morphogenetic protein (BMP) antagonist family that binds BMP-2, BMP-4, BMP-7 and other BMP family proteins and inhibits their receptor binding. Gremlin 1 is highly expressed at the base of the small intestinal crypts, alongside the related proteins gremlin 2 and chordin-like 1, where these antagonists help maintain the stem cell population by inhibiting BMP produced by mesenchymal cells, and it is also detected in fetal brain and colon and at lower levels in adult brain, prostate, pancreas and skeletal muscle. Roles for gremlin 1 in cancer stem cell maintenance in glioblastoma have also been suggested. In cell culture, recombinant gremlin 1, like other BMP antagonists such as noggin, is used in the derivation, growth and maintenance of organoids from epithelial tissues, including intestinal, liver and pancreatic organoids, making it a key reagent for organoid and stem cell niche 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, bovine, porcine. Species similarity: mouse - 99%, rat - 99%.

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

Conditions: For research use only. Not for use in diagnostic or therapeutic

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