# Technical Data Sheet

## Recombinant mouse activin E (Avi-tag) 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

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|---|---|
| **Catalog Number:** | **RP036** |
| **Protein Identity:** | Confirmed identity with expected mass, determined by mass spectrometry |
| **Reported Applications:** | Drug discovery in endocrinology<br>Drug discovery in inflammation<br>Drug discovery in metabolism |
| **Formulation:** | Lyophilized, white powder |
| **Endotoxin:** | ≤0.7 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:** | 27.1 kDa (dimer) |
| **Bioactivity Assay:** | No significant difference between EC50 of reference and test lots |
| **Mycoplasma:** | Negative |

## Description

Recombinant mouse activin E (Avi-tag) protein is a disulfide-linked dimeric member of the TGF-beta superfamily, produced from precursor subunits that are cleaved to form the active protein and carrying the characteristic cystine knot motif crucial for its function. Primarily expressed in the liver and also detected in adipose tissue and the gastrointestinal tract, activin E signals through ALK7 with the ActRIIA and ActRIIB receptors in liver and adipose tissues, resists antagonists such as follistatin, and activates the SMAD2/3 pathway in adipocytes. Initially identified in reproductive biology, it enhances FSH binding in the ovarian follicle, promotes spermatogenesis and participates in androgen synthesis, and it regulates glucose and lipid metabolism, positioning it as a potential target in obesity and metabolic disorders by enhancing insulin sensitivity and thermogenesis, while its blockade is explored as an anti-diabetic strategy. The 15-amino-acid Avi-tag (GLNDIFEAQKIEWHE) enables efficient site-specific biotinylation by the E. coli biotin ligase BirA for easy detection, immobilization and purification, making this protein a valuable reagent for endocrinology, metabolism, inflammation and drug discovery 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. Species reactivity: mouse.

## 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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