

PRODUCT INFORMATION



INHBE (human, recombinant)

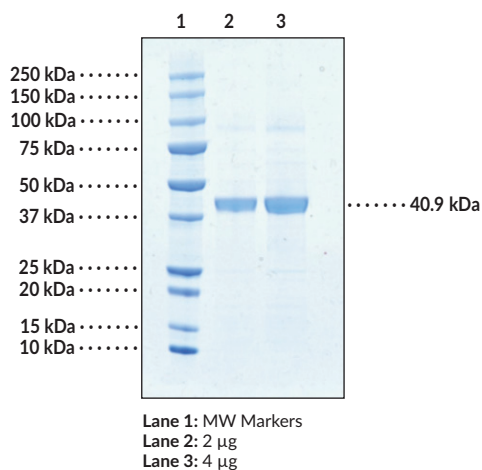
Item No. 44741

Overview and Properties

Synonyms:	Activin β -E Chain, Inhibin β -E Chain, Inhibin Subunit β E
Source:	Recombinant N-terminal human IgG1 Fc-tagged INHBE expressed in HEK293 cells
Amino Acids:	237-350
Uniprot No.:	P58166
Molecular Weight:	40.9 kDa
Storage:	-80°C (as supplied)
Stability:	≥ 1 year
Purity:	$\geq 90\%$ estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4, with 5% trehalose, 5% mannitol, and 0.01% polysorbate 80
Resuspension:	Resuspend to 1 mg/ml in sterile deionized water

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



SDS-PAGE Analysis of INHBE.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Inhibin beta E chain (INHBE) is a member of the TGF- β superfamily.¹ *INHBE* encodes a 350-amino acid pre-protein, which is proteolytically cleaved at Thr237 to release the mature INHBE peptide, and is a secreted protein mainly expressed in the liver. It exists as a homodimer, also known as activin E, or forms heterodimers with other inhibin beta chains such as INHBC.² INHBE is a hepatokine that is involved in hepatocyte viability, thermogenesis, and insulin sensitivity and binds to follistatin (Item No. 31839).¹⁻³ Overexpression of *INHBE* induces apoptosis in hepatocytes and INHBE-containing conditioned medium induces expression of genes involved in adipocyte differentiation, which can be blocked by the activin receptor-like kinase (ALK) inhibitor SB-431542 (Item No. 13031).^{2,3} Hepatic expression of human *INHBE* decreases plasma glucose levels and increases body temperature in mice.³ Loss-of-function mutations in *INHBE* are associated with favorable body fat distribution and a decreased risk of developing type 2 diabetes.⁴ Increased tumor levels of *INHBE* positively correlate with increasing tumor grade and negatively correlate with poor overall survival in patients with clear-cell renal cell carcinoma (ccRCC).⁵

References

1. Hashimoto, O., Tsuchida, K., Ushiro, Y., *et al.* cDNA cloning and expression of human activin β E subunit. *Mol. Cell. Endocrinol.* **194(1-2)**, 117-122 (2002).
2. Wada, W., Medina, J.J., Kuwano, H., *et al.* Comparison of the function of the β C and β E subunits of activin in AML12 hepatocytes. *Endocr. J.* **52(2)**, 169-175 (2005).
3. Hashimoto, O., Funaba, M., Sekiyama, K., *et al.* Activin E controls energy homeostasis in both brown and white adipose tissues as a hepatokine. *Cell Rep.* **25(5)**, 1193-1203 (2018).
4. Akbari, P., Sosina, O.A., Bovijn, J., *et al.* Multiancestry exome sequencing reveals INHBE mutations associated with favorable fat distribution and protection from diabetes. *Nat. Commun.* **13(1)**, 4844 (2022).
5. Xu, Z.-B., Gan, M.-F., Yu, H.-Y., *et al.* The significance of INHBE expression in the cancer cells of clear-cell renal cell carcinoma. *Urol. Int.* **106(4)**, 376-386 (2022).

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