

PRODUCT INFORMATION

Betacellulin (human, recombinant)

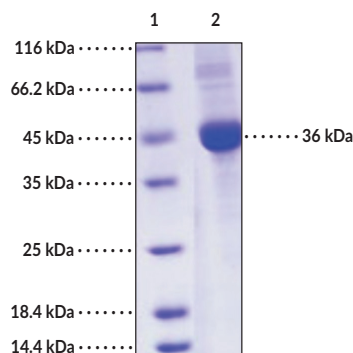
Item No. 42768

Overview and Properties

Synonym:	BTC
Source:	Active recombinant C-terminal human IgG1 Fc-tagged betacellulin expressed in HEK293 cells
Amino Acids:	32-111
Uniprot No.:	P35070
Molecular Weight:	36 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/μg, determined by the LAL endotoxin assay
Bioactivity:	See figures for details
Specific Activity:	batch specific

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

Image



Lane 1: MW Markers
Lane 2: Betacellulin

SDS-PAGE Analysis of Betacellulin. This protein has a calculated molecular weight of 36 kDa. The monomer migrates at approximately 43-46 kDa by SDS-PAGE under reducing conditions.

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.

Copyright Cayman Chemical Company, 03/20/2025

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM

PRODUCT INFORMATION



Description

Betacellulin is a member of the EGF family of growth factors.¹⁻³ It is composed of a signal peptide, an extracellular domain, which contains the EGF-like domain and a proteolytic cleavage site, a transmembrane domain, and a cytoplasmic domain.^{2,3} Betacellulin is ubiquitously expressed and undergoes shedding *via* cleavage by disintegrin and metalloproteinase domain-containing proteins (ADAMs) to release the soluble mature form. It acts as a ligand for homodimers of EGFR or HER4 and all possible heterodimers of EGFR, HER2, HER3, and HER4 to induce signaling through various pathways, including JNK, RAS/RAF/MEK/ERK, and Akt. Betacellulin has mitogenic activity toward pancreatic β -cells *in vitro* and improves glucose tolerance *in vivo*.^{1,2} It is also involved in reproduction, mammary gland and neonatal gastrointestinal tract development, and adult neurogenesis.¹⁻³ Intratumoral levels of betacellulin are increased in patients with lung adenocarcinoma.⁴ Cayman's Betacellulin (human, recombinant) protein can be used for cell-based assays. This protein is a disulfide-linked homodimer. The reduced monomer, composed of betacellulin (amino acids 32-111) fused to human IgG1 Fc at its C-terminus, consists of 321 amino acids, has a calculated molecular weight of 36 kDa, and a predicted N-terminus of Asp32 after signal peptide cleavage. The monomer migrates at approximately 43-46 kDa by SDS-PAGE under reducing conditions.

References

1. Shing, Y., Christofori, G., Hanahan, D., *et al.* Betacellulin: A mitogen from pancreatic β cell tumors. *Science* **259**, 1604-1607 (1993).
2. Dahlhoff, M., Wolf, E., and Schneider, M.R. The ABC of BTC: Structural properties and biological roles of betacellulin. *Semin. Cell Dev. Biol.* **28**, 42-48 (2014).
3. Dunbar, A.J. and Goddard, C. Structure-function and biological role of betacellulin. *Int. J. Biochem. Cell Biol.* **32(18)**, 805-815 (2000).
4. Gómez-Gaviro, M.V., Scott, C.E., Sesay, A.K., *et al.* Betacellulin promotes cell proliferation in the neural stem cell niche and stimulates neurogenesis. *Proc. Natl. Acad. Sci. USA* **109(4)**, 1317-1322 (2012).
5. Chava, S., Bugide, S., Zhang, X., *et al.* Betacellulin promotes tumor development and EGFR mutant lung cancer growth by stimulating the EGFR pathway and suppressing apoptosis. *iScience* **25(5)**, 104211 (2022).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM