

Cytokines

Human Recombinant HBEGF



Scientists Helping Scientists™ | WWW.STEMCELL.COM

TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713

INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM

FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

Heparin-binding EGF-like growth factor

Catalog # 78163
78163.1

10 µg
50 µg

Product Description

Heparin-binding epidermal growth factor (EGF)-like growth factor (HBEGF) is a member of the EGF family (Nishi & Klagsbrun). HBEGF promotes blastocyst adhesion to the uterine wall (Iwamoto & Mekada). It also plays a role in smooth muscle cell hyperplasia and brain injury (Nishi & Klagsbrun). HBEGF produced by CD4+ T cells promotes wound healing by stimulating migration and proliferation of keratinocytes, fibroblasts, and smooth muscle cells (Blotnick et al.). It binds to EGFR, ErbB4, ErbB2, and ErbB3, activating the PI3K/AKT signaling cascade (Iwamoto & Mekada). HBEGF is produced in a variety of cells, where it contributes to physiological and pathological processes. HBEGF is overexpressed in ovarian, breast, gastric, colorectal, pancreatic, and endometrial cancers, which likely contributes to pathogenesis (Miyata et al.).

Product Information

Alternative Names: Diphtheria toxin receptor, DTR, HBEGF, Heparin binding EGF-like growth factor
Accession Number: Q99075
Amino Acid Sequence: DLQEADLDLL RVTLSKPKQA LATPNKEEHG KRKKKGKGLG KKRDPCLRKY KDFCIHGECK YVKELRAPSC ICHPGYHGER CHGLSL
Predicted Molecular Mass: 9.7 kDa
Species: Human
Cross Reactivity: Reported to be species-specific
Formulation: Lyophilized after dialysis against phosphate-buffered saline.
Source: E. coli

Specifications

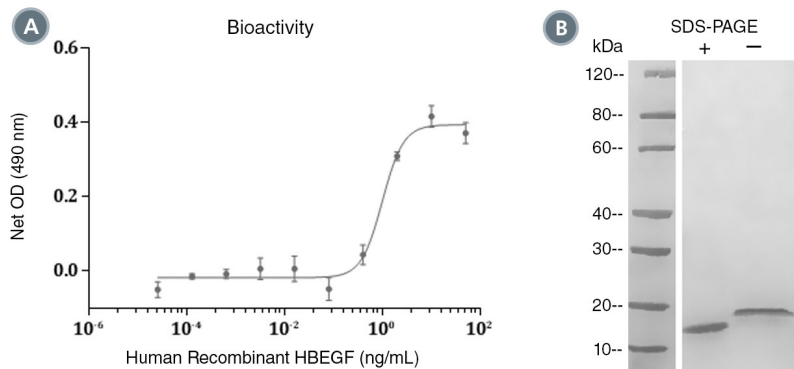
Activity: The specific activity is $\geq 1.3 \times 10^6$ units/mg ($EC_{50} \leq 0.75$ ng/mL) as determined by a cell proliferation assay using 3T3 cells.
Purity: $\geq 95\%$
Endotoxin Level: Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Storage: Store at -80°C.
Stability: Stable as supplied for 12 months from date of receipt.
Preparation: Centrifuge vial before opening. Reconstitute the product in sterile water or phosphate-buffered saline to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex.

OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 week or at -20°C to -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant HBEGF was tested by its ability to promote the proliferation of 3T3 cells. Cell proliferation was measured using a fluorometric assay method. The EC₅₀ is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC₅₀ in the example above is less than 0.75 ng/mL.

(B) 2 µg of Human Recombinant HBEGF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant HBEGF has a predicted molecular mass of 9.7 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

- Blotnick S et al. (1994) T lymphocytes synthesize and export heparin-binding epidermal growth factor-like growth factor and basic fibroblast growth factor, mitogens for vascular cells and fibroblasts: differential production and release by CD4⁺ and CD8⁺ T cells. *Proc Natl Acad Sci USA* 91(8): 2890–4.
- Iwamoto R & Mekada E. (2000) Heparin-binding EGF-like growth factor: a juxtacrine growth factor. *Cytokine Growth Factor Rev* 11(4): 335–44.
- Miyata K et al. (2012) Regulatory mechanisms of the HB-EGF autocrine loop in inflammation, homeostasis, development and cancer. *Anticancer Res* 32(6): 2347–52.
- Nishi E & Klagsbrun M. (2004) Heparin-binding epidermal growth factor-like growth factor (HB-EGF) is a mediator of multiple physiological and pathological pathways. *Growth Factors* 22(4): 253–60.

STEMCELL TECHNOLOGIES INC.'S QUALITY MANAGEMENT SYSTEM IS CERTIFIED TO ISO 13485. PRODUCTS ARE FOR RESEARCH USE ONLY AND NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES UNLESS OTHERWISE STATED.

Copyright © 2017 by STEMCELL Technologies Inc. All rights reserved including graphics and images. STEMCELL Technologies & Design, STEMCELL Shield Design, and Scientists Helping Scientists are trademarks of STEMCELL Technologies Canada Inc. All other trademarks are the property of their respective holders. While STEMCELL has made all reasonable efforts to ensure that the information provided by STEMCELL and its suppliers is correct, it makes no warranties or representations as to the accuracy or completeness of such information.