

Cytokines

Human Recombinant GRO-beta (CXCL2)

Growth-regulated oncogene beta



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Catalog #	78112	5 µg
	78112.1	25 µg
	78112.2	1000 µg

Product Description

GRO (growth-regulated oncogene)-beta or CXCL2 is a member of CXC family, which plays an integral role in recruitment and activation of neutrophils and basophils in response to tissue injury and microbial infection. GRO-beta and GRO-gamma are closely related to GRO-alpha and share 90% and 86% amino acid sequence homology, respectively, with GRO-alpha. Receptor-binding studies have demonstrated that GRO-alpha, -beta, and -gamma signal mainly through G protein-coupled receptors CXCR1 and CXCR2 (Ahuja & Murphy). GRO-beta is expressed in epithelial cells, monocytes, fibroblasts, and melanocytes and is further induced during inflammatory, epithelialization, and angiogenic processes, for example during the wound healing process of human burn wounds (Zaja-Milatovic & Richmond). GRO-beta also stimulates mitogenesis in certain human melanoma cells (Unemori et al.).

Product Information

Alternative Names:	CXCL2, GRO2, Growth regulated protein, Macrophage inflammatory protein-2 α , Melanoma growth stimulatory activity, MGSAP, MIP-2 α
Accession Number:	P19875
Amino Acid Sequence:	APLATELRCQ CLQTLQGIHL KNIQSVKVKS PGPHCAQTEV IATLKNQKA CLNPASPMVK KIIKMLKNG KSN
Predicted Molecular Mass:	7.9 kDa
Species:	Human
Cross Reactivity:	Mouse
Formulation:	Lyophilized after dialysis against phosphate-buffered saline.
Source:	E. coli

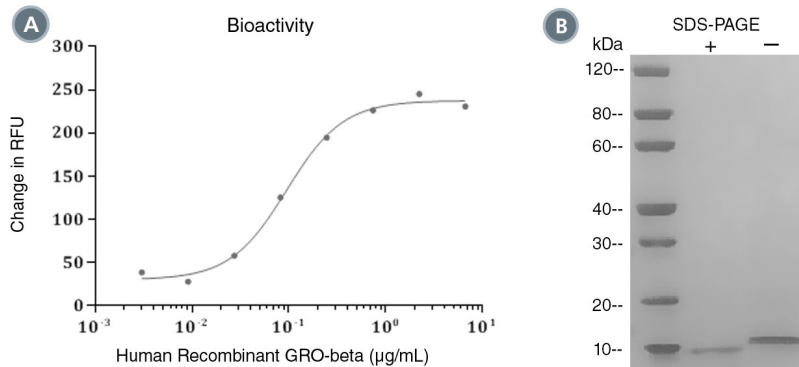
Specifications

Activity:	The specific activity is $\geq 5.0 \times 10^3$ units/mg ($EC_{50} \leq 0.2$ µg/mL) as determined by Ca ²⁺ mobilization assay in CHO-K1/G α 15/hCXCR2 cells (human G α 15 and human CXCR2 stably expressed in CHO-K1 cells).
Purity:	$\geq 95\%$
Endotoxin Level:	Measured by kinetic Limulus amebocyte 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. Resuspend 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. Store at 2 - 8°C for up to 1 week or at -20°C to -80°C for up to 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant GRO-beta (CXCL2) was tested by its ability to mobilize Ca^{2+} in CHO-K1/ $\text{G}\alpha 15/\text{hCXCR2}$ cells (human $\text{G}\alpha 15$ and human CXCR2 stably expressed in CHO-K1 cells). Ca^{2+} mobilization was measured using a fluorometric assay method. The EC₅₀ is defined as the effective concentration of the growth factor at which Ca^{2+} mobilization is at 50% of maximum. The EC₅₀ in the above example is less than 0.2 $\mu\text{g/mL}$.

(B) 2 μg of Human Recombinant GRO-beta (CXCL2) was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining.

Related Products

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

References

- Ahuja SK & Murphy PM. (1996) The CXC chemokines growth-regulated oncogene (GRO) alpha, GRObeta, GROgamma, neutrophil-activating peptide-2, and epithelial cell-derived neutrophil-activating peptide-78 are potent agonists for the type B, but not the type A, human interleukin-8 receptor. *J Biol Chem* 271(34): 20545–50.
- Unemori EN et al. (1993) Melanoma growth-stimulatory activity/GRO decreases collagen expression by human fibroblasts. Regulation by C-X-C but not C-C cytokines. *J Biol Chem* 268(2): 1338–42.
- Zaja-Milatovic S & Richmond A. (2008) CXC chemokines and their receptors: a case for a significant biological role in cutaneous wound healing. *Histol Histopathol* 23(11): 1399–407.

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