

Recombinant Human GRO- α (MGSA)

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Catalog Number:	PHC1065	PHC1066	PHC1061	PHC1063
Quantity:	10 μ g	25 μ g	100 μ g	1 mg
Lot Number:	See product label.			
Molecular Weight:	~ 8 kDa			
Purity:	>95% pure by SDS-PAGE.			
Biological Activity:	The biological activity was determined by measuring the dose dependent mobilization of intracellular calcium (calcium flux) with human neutrophils. Significant calcium mobilization is observed with ≥ 1 ng/mL of recombinant human GRO-alpha. The optimal concentration for each specific application should be determined by an initial dose response assay.			
Formulation:	Lyophilized, carrier-free.			
Sterility:	Filtered prior to lyophilization through a 0.22 micron sterile filter.			
Endotoxin:	<0.1 ng/ μ g			
Production:	Produced in <i>E. coli</i> and purified by sequential chromatography.			
Reconstitution Recommendation:	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute lyophilized human GRO-alpha in sterile, distilled water to 0.1–0.5 mg/mL. These stock solutions should be apportioned into working aliquots and stored at $\leq -20^{\circ}\text{C}$. Further dilution should be made in medium or buffered solution containing carrier protein, such as PBS with 0.1% BSA.			
Suggested Working Dilutions:	The optimal concentration should be determined for each specific application.			
Storage:	Lyophilized human GRO-alpha should be stored at 2°C to 8°C , preferably desiccated. Store reconstituted human GRO-alpha at $\leq -20^{\circ}\text{C}$ (not in a frost-free freezer). Keep freeze-thaw cycles to a minimum.			
Expiration Date:	Expires one year from date of receipt when stored as instructed.			
References:	<p>Richmond, A., E. Balentien, H.G. Thomas, G. Flaggs, D.E. Barton, J. Spiess, R. Bordoni, U. Francke, and R. Derynck (1988) Molecular characterization and chromosomal mapping of melanoma growth stimulatory activity, a growth factor structurally related to beta-thromboglobulin. <i>EMBO J.</i> 7:2025–2033.</p> <p>Anisowicz, A., L. Bardwell, and R. Sager (1987) Constitutive overexpression of a growth-regulated gene in transformed Chinese hamster and human cells. <i>Proc. Nat'l. Acad. Sci. USA</i> 84:7188–7192.</p> <p>Metzner, B., M. Barbisch, F. Parlow, E. Kownatzki, I. Shraufstatter, and J. Norgauer (1995) Interleukin-8 and GRO alpha prime human neutrophils for superoxide anion production and induce up-regulation of N-formyl peptide receptors. <i>J. Invest. Dermatol.</i> 104:789–791.</p> <p>Jinquan, T., J. Frydenberg, N. Mukaida, J. Bonde, C.G. Larsen, K. Matsushima, and K. Thestrup-Pedersen (1995) Recombinant human growth-regulated oncogene-alpha induces T lymphocyte chemotaxis. A process regulated via IL-8 receptors by IFN-gamma, TNF-alpha, IL-4, IL-10, and IL-13. <i>J. Immunol.</i> 155:5359–5368.</p> <p>Damaj, B.B., S.R. McColl, K. Neote, C.A. Herbert, and P.H. Naccache (1996) Diverging signal transduction pathways activated by interleukin-8 (IL-8) and related chemokines in human neutrophils. IL-8 and Gro-alpha differentially stimulate calcium influx through IL-8 receptors A and B. <i>J. Biol. Chem.</i> 271:20540–20544.</p> <p>Katancik, J.A., A. Sharma, and E. de Nardin (2000) Interleukin 8, neutrophil-activating peptide-2, GRO-alpha bind to and elicit cell activation via specific and different amino acid residues of CXCR2. <i>Cytokine</i> 12:1480–1488.</p> <p>Wang, D., J. Sai, G. Carter, A. Sachpatzidis, E. Lolis, and A. Richmond (2002) PAK1 kinase is required for CXCL1-induced chemotaxis. <i>Biochemistry</i> 41:7100–7107.</p> <p>Dhawan, P., and A. Richmond (2002) Role of CXCL1 in tumorigenesis of melanoma. <i>J. Leukocyte Biol.</i> 72:9–18.</p> <p>Fan, J. and A.B. Malik (2003) Toll-like receptor-4 (TLR4) signaling augments chemokine-induced neutrophil migration by modulating cell surface expression of chemokine receptors. <i>Nature Medicine</i> 9(3):315–321.</p>			

Explanation of Symbols

The symbols present on the product label are explained below:

Symbol	Description
	Catalog Number
	Research Use Only
	Use by
	Manufacturer
	Without, does not contain
	Protect from light
	Directs the user to consult instructions for use (IFU), accompanying the product.

Symbol	Description
	Batch code
	In vitro diagnostic medical device
	Temperature limitation
	European Community authorized representative
	With, contains
	Consult accompanying documents

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For Research Use Only. Caution: Not for human or animal therapeutic or diagnostic use.

Manufactured under ISO 13485 Quality Standard

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