Cotton Rat CXCL1/2/3/GRO Antibody

Monoclonal Mouse IgG_1 Clone # 186413

Catalog Number: MAB1114

DESCRIPTION

Species Reactivity	Cotton Rat
Specificity	Detects cotton rat CXCL1/2/3/GRO in direct ELISAs and Western blots. In direct ELISAs, this antibody shows 5-20% cross-reactivity with recombinant rat CXCL1 and recombinant human CXCL2 and no cross-reactivity with recombinant cotton rat CXCL10, recombinant human CXCL1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12/SDF-1α, rh12/SDF-1β, 13, 16, recombinant mouse CXCL1, 2, 4, 6, 7, 9, 10, 11, 12/SDF-1α, 13, 15, 16, 17, recombinant rat (rr) CXCL2, rrCXCL3/CINC-2α, rr3/CINC-2β, or recombinant porcine CXCL8.
Source	Monoclonal Mouse IgG_1 Clone # 186413
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant cotton rat GRO Ala28-Lys100 Accession # AAL16934
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

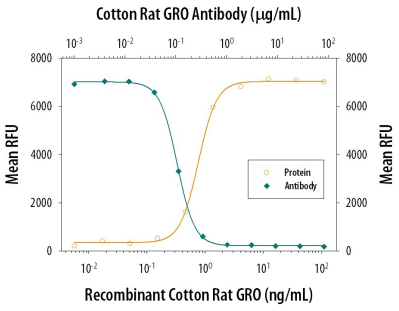
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Cotton Rat CXCL1/2/3/GRO (Catalog # 1114-GR)
Neutralization	Measured by its ability to neutralize CXCL1/2/3/GRO-induced chemotaxis in the BaF3 mouse pro-B cell line transfected with human CXCR2. The Neutralization Dose (ND_{50}) is typically 0.08-0.4 µg/mL in the presence of 5 ng/mL Recombinant Cotton Rat CXCL1/2/3/GRO.	

DATA

Neutralization



Chemotaxis Induced by CXCL1/2/3/GRO and Neutralization by Cotton Rat CXCL1/2/3/GRO Antibody. Recombinant Cotton Rat CXCL1/2/3/GRO (Catalog # 1114-GR) chemoattracts the BaF3 mouse pro-B cell line transfected with human CXCR2 in a dose-dependent manner (orange line). The amount of cells that migrated through to the lower chemotaxis chamber was measured by Resazurin (Catalog # AR002). Chemotaxis elicited by Recombinant Cotton Rat CXCL1/2/3/GRO (5 ng/mL) is neutralized (green line) by increasing concentrations of Cotton Rat CXCL1/2/3/GRO Monoclonal Antibody (Catalog # MAB1114). The ND_{50} is typically 0.08-0.4 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Cotton rat growth-regulated protein (GRO) is a member of the ELR^+ CXC subfamily of chemokines (1). The cotton rat GRO cDNA encodes a 100 amino acid (aa) precursor protein with a 27 aa putative signal peptide and a 73 aa mature protein (2). Among the three human GRO proteins, mature cotton rat GRO is most closely related to CXCL1/GROα, sharing approximately 77% aa sequence identity (3). It also shares 75% and 70% aa sequence identity with mature human CXCL2/GROβ and CXCL3/GROγ, respectively (4). Compared with rat CXC chemokines, mature cotton rat shows 92%, 76%, and 76% aa sequence homology with rat KC/GRO/CINC-1, CINC-2, and CINC-3, respectively (5). Mature cotton rat CXCL1 also shares 74% sequence homology with mature cotton rat MIP-2 (6). Similarly to GRO proteins from other species, cotton rat CXCL1 is expected to be a potent neutrophil chemoattractant and activator. Cotton rat CXCL1 has been shown to bind and activate both mouse chemokine receptors CXCR1 and CXCR2 (7). Similarly to human CXCL1, the cotton rat CXCL1 concentration required to activate CXCR1 is at least an order of magnitude higher than that required to activate CXCR2 (7, 8). Based on studies on rodents, cotton rat CXCL1 is predicted to be produced by a wide variety of cell types including macrophages, endothelial cells, fibroblasts, astrocytes, neutrophils, keratinocytes, and intestinal epithelium (1, 9).

References:

1. Rollins, B.J. (1997) Blood **90**:909.
2. Blanco, J.C. *et al.* (2001) GenBank Accession #: AAL16934.
3. Richmond, A. *et al.* (1988) EMBO J. **7**:2025.
4. Haskill, S. *et al.* (1990) Proc. Natl. Acad. Sci. USA **87**:7732.
5. Nakagawa, H. *et al.* (1994) Biochem. J. **301**:545.
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7. R&D Systems, unpublished observations.
8. Schumacher, C. *et al.* (1992) Proc. Natl. Acad. Sci. USA **89**:10542.
9. Zlotnik, A.O. (2000) Immunity **12**:121.