Technical Data Sheet

Biotin Rat Anti-Human GM-CSF

Product Information

Material Number:	**554505**
Alternate Name:	CSF2; Colony stimulating factor 2 (granulocyte-macrophage); CSF; GMCSF
Size:	0.5 mg
Concentration:	0.5 mg/ml
Clone:	BVD2-21C11
Immunogen:	Recombinant human GM-CSF
Isotype:	Rat (LEW) IgG2a
Reactivity:	QC Testing: Human
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The BVD2-21C11 monoclonal antibody specifically binds to human Granulocyte/Macrophage - Colony Stimulating Factor (GM-CSF). Human GM-CSF is encoded by the *CSF2* gene and is also known as Colony Stimulating Factor 2. GM-CSF is produced by activated T lymphocytes, macrophages, endothelial cells, fibroblasts, stromal cells and other cell types including B lymphocytes, mast cells, eosinophils, and osteoblasts. GM-CSF stimulates the survival, proliferation and/or differentiation of various cell types including neutrophils, eosinophils, macrophages, dendritic cells, megakaryocytes, erythroid cells, endothelial cells and their precursors. The immunogen used to generate the BVD2-21C11 hybridoma was recombinant human GM-CSF. The BVD2-21C11 antibody has been reported to crossreact with GM-CSF from the rhesus monkey. BVD2-21C11 is a neutralizing antibody.

Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.
The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
The antibody was conjugated with biotin under optimum conditions, and unreacted biotin was removed.

Application Notes

Application

ELISA Detection	Routinely Tested
Flow cytometry	Tested During Development
Immunoprecipitation/Western blot	Reported

Recommended Assay Procedure:

ELISA Detection: The biotinylated BVD2-21C11 antibody (Cat. No. 554505) is useful as a detection antibody in a sandwich ELISA for measuring human GM-CSF protein levels. Biotinylated BVD2-21C11 antibody can be paired with the purified BVD2-23B6 antibody (Cat. No. 554502) as the capture antibody, with recombinant human GM-CSF (Cat. No. 550068) as the standard. This detecting antibody preparation should be titrated from 0.5 - 2.0 µg/ml to determine its optimal concentration for ELISA detection. To obtain linear standard curves, doubling dilutions of GM-CSF protein ranging from ~15 to 2,000 pg/ml are recommended for inclusion in each ELISA plate. For specific methodology, please visit our web site, ww.bdbiosciences.com, and go to the protocols section or the chapter on ELISA in the Immune Function Handbook.

This ELISA pair shows no cross-reactivity with any of the cytokines tested (e.g., mouse IL-1β, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-9, IL-10, IL-12 p70, IL-15, GM-CSF, IFN-γ, MCP-1, TCA-3, TNF; human IL-1α, IL-1β, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8, IL-9, IL-10, IL-11, IL-12 p70, IL- 12 p40, IL-13, IL-15, G-CSF, IFN-γ, lymphotactin, MCP-1, MCP-2, MIP-1α, MIP-1β, NT-3, PDGF-AA, sCD23 , SCF, TNF, LT-α, VEGF; rat IL-2, IL-4, IL-6, IL-10, GM-CSF, IFN-γ, TNF).

This ELISA pair is recommended primarily for measuring cytokine from experimental cell culture systems. These ELISA reagents are not recommended for assay of serum samples. For testing human GM-CSF in complex biological fluids such as serum or plasma, our human GM-CSF OptEIA™ ELISA Set (Cat. No. 555126) is recommended.

IF/Flow: The BVD2-21C11 antibody useful for immunofluorescent staining and flow cytometric analysis to identify and enumerate GM-CSF producing cells within mixed cell populations. The PE-conjugated BVD2-21C11 antibody (Cat. No. 554507) is especially suitable for these studies. We also offer Alexa Fluor® 647 (Cat. No. 5622570) and PerCp-Cy™5.5 (Cat. No. 562258) formats.

IP/WB: The BVD2-21C11 antibody has been reported to be useful for immunoprecipitation studies. Please note that this application is not routinely tested at BD Biosciences Pharmingen.

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Suggested Companion Products

Catalog Number	Name	Size	Clone
550068	Recombinant Human GM-CSF	10 µg	(none)
554502	Purified Rat Anti-Human GM-CSF	0.5 mg	BVD2-23B6
555126	Human GM-CSF ELISA Set	20 plates	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

Abrams J. Immunoenzymetric assay of mouse and human cytokines using NIP-labeled anti-cytokine antibodies. In: Coligan J, Kruisbeek A, Margulies D, Shevach E, Strober W, ed. *Current Protocols in Immunology*. New York: John Wiley and Sons; 1995:6.20-6.21. (Clone-specific: ELISA)

Abrams JS, Roncarolo MG, Yssel H, Andersson U, Gleich GJ, Silver JE. Strategies of anti-cytokine monoclonal antibody development: immunoassay of IL-10 and IL-5 in clinical samples. *Immunol Rev*. 1992; 127:5-24. (Clone-specific: ELISA, Immunoprecipitation)

Bacchetta R, de Waal Malefijt R, Yssel H. Host-reactive CD4+ and CD8+ T cell clones isolated from a human chimera produce IL-5, IL-2, IFN-gamma and granulocyte/macrophage-colony-stimulating factor but not IL-4. *J Immunol.* 1990; 144(3):902-908. (Clone-specific: ELISA)

Kita H, Ohnishi T, Okubo Y, Weiler D, Abrams JS, Gleich GJ. Granulocyte/macrophage colony-stimulating factor and interleukin 3 release from human peripheral blood eosinophils and neutrophils. *J Exp Med*. 1991; 174(3):745-748. (Clone-specific: ELISA)

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