Magic™ Fc Receptor Blocker

Cat. No. CDN-ZF1 (15 mL, for 150-250 slides)
CDN-ZF2 (30 mL, for 350-600 slides)
For Research Use Only

INTRODUCTION

Fc receptors (FcRs) are glycoproteins of approximate molecular weights of 50-70 kD. They are expressed by many different cell types in the immune system, and their interaction with antibody can initiate a broad spectrum of effector functions that are important in host defense. These functions include phagocytosis of antibody-coated microbes, lysosomal degradation of endocytosed immune complexes, antibody-dependent cell-mediated cytotoxicity, secretion of cytokine and chemokines, release of potent inflammatory mediators, enhancement of antigen presentation, and regulation of antibody production by B lymphocytes, and plasma cell survival.

Non-specific Fc receptors staining in assays such as IHC, Immunofluorescence (IF) and flow cytometry can result from the binding of the Fc region of the primary and secondary antibody to the Fc receptors on the cells. Eliminating Fc receptor staining is desirable in IHC, IF and Flow cytometry.

For **IHC testing:** The binding of the Fc region of the primary and/or the secondary antibody to the Fc receptors present on lymphoid tissues and other tissues containing Fc receptors gives rise to non-specific Fc receptor staining in Immunohistochemical (IHC) staining. Tissues rich in Fc receptors include lymphoid sections, lymphomas, tonsil, lymph nodes, bone marrow preparations, blood smears and tissues stained for most CD markers, Immunoglobulins (Igs) and Kappa and Lambda markers. To avoid Fc receptor staining tissue sections are blocked with Magic™ Fc Blocker for a short period prior to application of serum or protein blocking and especially prior to application of primary antibody (See instruction section of this specification).

For **Flow cytometry assays:** Fc receptors are present on leukocytes (white blood cells), many cell lines and several other cell types in both human and animal tissues. Fc receptors give rise to non-specific Fc receptor-staining in flow cytometry assays by binding of Fc region of antibodies and immunoglobulin (Igs) to Fc receptors on cells. Non-specific Fc receptors staining can be eliminated by blocking cells with Magic™ Fc Blocker in a variety of Flow cytometry assays such as CD phenotyping, leukemia typing and in live cell functional assays. (See instruction section of this specification)

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PRODUCT DESCRIPTION

Magic™ Fc Receptor Blocker is a UNIVERSAL Fc Blocker applicable to Block all types of Fc receptors such as Fc-gamma receptors of type I, II and III; Fc -epsilon receptors type I and II; Fc -alpha receptors, Fca/ pR and FcRn. Magic™ Fc Blocker does NOT contain antibodies, Immunoglobulins or immunoglobulin fragments.

Magic™ Fc Blocker can be used to block all types of Fc receptors in all-species including human, mouse and all-animal species cells and tissues by a variety of Immunoassays such as IHC, Immunofluorescence (IF) and Flow cytometry. MagicTM Fc Blocker is also commonly used in eliminating background staining in Brain cells/ tissues.

Fc Receptor blocker is also used for obtaining specific staining for tissues stained for kappa, lambda antibodies and Immunoglobulins (Igs) by IHC, IF and Flow cytometry assays.

PRODUCT FORMAT

Working solution, no dilution or adjustments required.

STORAGE CONDITIONS

Store in refrigerator at 2-8° C through the expiration date noted on the vial label.

INSTRUCTIONS

For Blocking Fc receptors for IHC and IF sections

1. Deparaffinize paraffin section slides or cut frozen sections, fix and rinse in water as usual.
2. Quench endogeneouse peroxidase by immersion in 3% H_2O_2 (only for Peroxidase- IHC staining)
3. Cover sections or smears with 3-6 drops of Fc receptor block to achieve full specimen coverage.
4. Incubate for 30 minutes to 1-hour at room temperature.
5. Rinse with rinse buffer.
6. Proceed with IHC or IF staining as usual.

Magic™ Fc Receptor Blocker can be used in autostainers as a pre-treatment step prior to application of protein and/or serum blocking.

For Flow Cytometry Blocking of Fc receptors

1. Lyse or ficol blood as usual.
2. Add 150 to 300 microliter of Fc receptor block for 10^6 (million) cells
3. Incubate for 30 minutes to 1-hour on ice OR at room temperature.
4. Wash twice in assay wash buffer.
5. Proceed with antibody labeling.

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