

Product Data Sheet

anti-human CCR4 monoclonal antibody

Product information

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|------------------------|---|
| Catalog Number: | GM-0602 |
| Clone: | KH-4F5 |
| Description: | purified monoclonal mouse antibody |
| Specificity: | anti-human CCR4 |
| Isotype: | IgG2a |
| Purification: | Protein G |
| Storage: | short term: 2°C - 8°C; long term: -20°C (avoid repeated freezing and thawing) |
| Buffer : | phosphate buffered saline, pH 7.2 |
| Immunogen: | immunisation with human CCR4 peptide |
| Selection: | based on recognition of the complete native protein expressed on transfected mammalian cells |

Working dilutions

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|----------------------------|------------------------------|
| Flow cytometry: | 1.2 µg/10 ⁶ cells |
| Immunofluorescence: | 1 µg/10 ⁶ cells |
| CELISA: | 1:200 - 1:400 |

For each application a titration should be performed to determine the optimal concentration.

Specificity testing by flow cytometry and by Spectral Confocal Microscopy

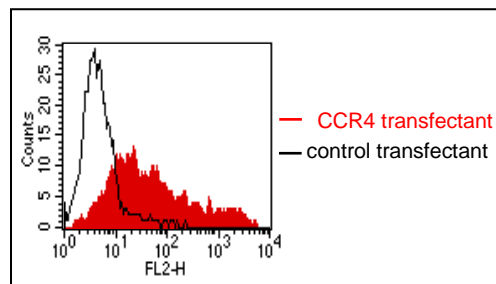


Fig.1: FACS analysis of BOSC23 cells using KH-4F5 Cat.# GM-0602. BOSC23 cells were transiently transfected with an expression vector encoding either CCR4 (red curve) or an irrelevant protein (control transfectant). Binding of KH-4F5 was detected with a PE-conjugated secondary antibody. A positive signal was obtained only with CCR4 transfected cells.

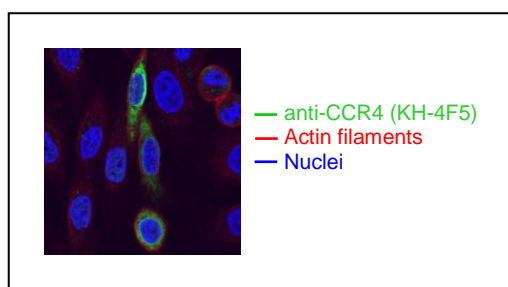


Fig.2: Spectral Confocal Microscopy of CHO cells using KH-4F5 Cat.# GM-0602. CHO cells were transiently transfected with an expression vector encoding CCR4. Binding of KH-4F5 was visualized with a FITC-conjugated secondary antibody (green). Actin filaments are labeled with Alexa Fluor-555 Phalloidin (red). Cell nuclei are stained with DAPI (blue).

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SDS-PAGE analysis of KH-4F5

The antibody was purified by protein G affinity chromatography from cell culture supernatants and verified by SDS-Page (Fig.3).

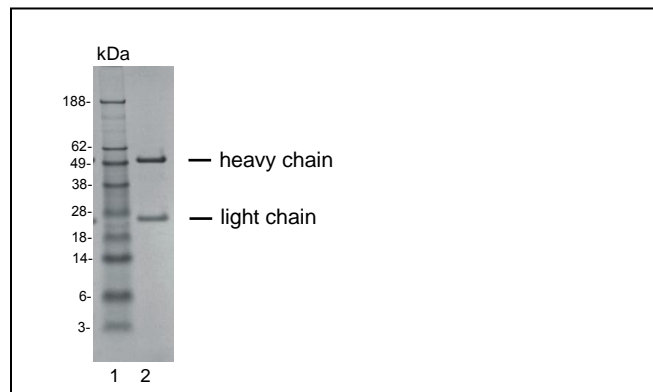


Fig.3: SDS-PAGE analysis of purified KH-4F5 monoclonal antibody. Lane 1: molecular weight marker, Lane 2: 2 µg of purified KH-4F5 antibody. Proteins were separated by SDS-PAGE and stained with RAPID Stain™ Reagent.

Background

CCR4 (*CC chemokine receptor 4*) belongs to the rhodopsin family of G-protein-coupled receptors. Chemokine receptors are membrane-bound molecules composed of 7-transmembrane domains and are coupled to G-proteins (1,2). *CCR4* binds the chemokines *CCL17* (*TARC*) and *CCL22* (*MDC*) and is highly expressed in most single-positive *CD4*(+) thymocytes especially in *TH2*- and regulatory T-cells (3,4). It plays a central role in T cell migration to the thymus, T cell maturation and education. *CCR4* is often up-regulated in inflammation and cause conformational changes that trigger intracellular signaling pathways (2,5).

References

1. **Andrew DP et al.** (2001). C-C chemokine receptor 4 expression defines a major subset of circulating non-intestinal memory T cells of both Th1 and Th2 potential. *J Immunol* 166(1): 103-11
2. **Murdoch C and Finn A** (2000). Chemokine receptors and their role in inflammation and infectious diseases. *Blood* 95 (10): 3032-3043
3. **Imai T et al.** (1997). The T cell-directed CC chemokine TARC is a highly specific biological ligand for CC chemokine receptor 4. *J Biol Chem* 6;272(23):15036-42
4. **Imai T et al.** (1998). Macrophage-derived chemokine is a functional ligand for the CC chemokine receptor 4. *J Biol Chem* 16;273(3):1764-8
5. **Purandare AV and Somerville JE** (2006). Antagonists of *CCR4* as immunomodulatory agents. *Curr Top Med Chem* 6(13):1335-44