

DESCRIPTION

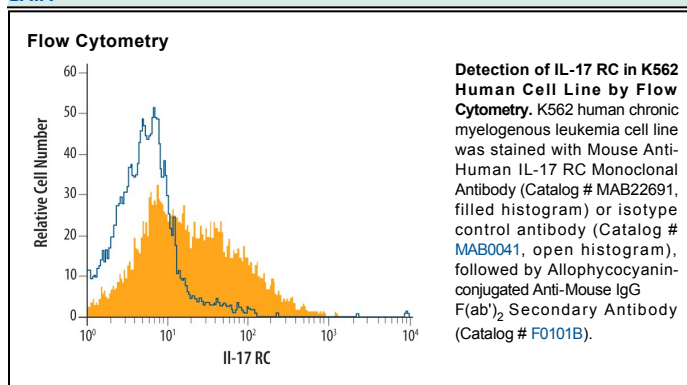
| | |
|---------------------------|--|
| Species Reactivity | Human |
| Specificity | Detects human IL-17 RC in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human (rh) IL-17 R, rhIL-17 BR, rhIL-17 RD, or recombinant mouse IL-17 RC is observed. |
| Source | Monoclonal Mouse IgG _{2B} Clone # 309822 |
| Purification | Protein A or G purified from hybridoma culture supernatant |
| Immunogen | Mouse myeloma cell line NS0-derived recombinant human IL-17 RC Leu21-Ala454 Accession # NP_116121 |
| Formulation | Lyophilized from a 0.2 µm filtered solution in PBS and NaCl 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 |
|-----------------------|-------------------------------|-----------|
| Flow Cytometry | 0.25 µg/10 ⁶ cells | See Below |

DATA



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. <ul style="list-style-type: none"> ● 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. |

BACKGROUND

IL-17 receptor C (IL-17 RC; also known as IL-17 RL and IL-17 Rhom) is an 85-110 kDa member of the IL-17 receptor family. This is one of five families that currently comprise the cytokine receptor superfamily (1, 2, 3, 4, 5, 6). At this time, there are five members within the IL-17 receptor family, and these are termed IL-17 RA, B, C, D and E. Not all receptors appear to bind known members of the IL-17 cytokine family. To date, IL-17 RA is reported to bind IL-17(A), while IL-17 RB is reported to bind IL-17B and IL-17E (2, 4). Human IL-17 RC is a type I transmembrane glycoprotein that is expressed on a variety of nonhematopoietic cell types. These include endothelial cells (6, 7), chondrocytes and osteoblasts (8), breast and prostatic epithelium (6), and fibroblasts, plus renal tubular epithelium and skeletal muscle cells (8, 9). Full-length IL-17 RC is synthesized as a 791 amino acid (aa) precursor (10, 11). It contains a 20 aa signal sequence, a 518 aa extracellular domain (ECD) (aa 21-538), a 21 aa transmembrane segment, and a 232 aa cytoplasmic region. Although IL-17 RA has two fibrinogen-like regions in its ECD that contribute to its function, no such architecture has been identified in the ECD of IL-17 RC (12). Based on studies looking at exon deletions, a key ligand-binding site would appear to exist over aa 425-441 (13). The gene for human IL-17 RC contains 19 exons. It is estimated that there are over 90 alternative splice forms, with transmembrane-containing isoforms predominating (6, 14). The full-length isoform is estimated to occur approximately 10% of the time, while the three most common isoforms, as a group, occur about 50% of the time. Based on limited information, alternative splicing appears to regulate ligand specificity (13). R&D Systems IL-17 RC corresponds to IL-17 RC isoform # 3, which shows deletions of aa 36-106 and 264-278 relative to the full-length form (10). Over the ECD, IL-17 RC isoform #3 is 68% aa identical to mouse IL-17 RC ECD. IL-17 RC is the cognate receptor for IL-17F, and binds IL-17A with similar affinity (13). With IL-17 RA, it forms a definitive receptor for both IL-17A and IL-17F. The stoichiometry is unclear; it may form a heterodimer with IL-17 RA, or a heterotrimer with a preexisting IL-17 RA homodimer (4, 9, 13, 15). The heteromeric nature of the receptor may be important given that the predominant form of the IL-17 cytokine is now considered to be an IL-17A:IL-17F heterodimer (4).

References:

1. Gaffen, S.L. *et al.* (2006) *Vitam. Horm.* **74**:255.
2. Weaver, C.T. *et al.* (2007) *Annu. Rev. Immunol.* **25**:821.
3. Moseley, T.A. *et al.* (2003) *Cytokine Growth Factor Rev.* **14**:155.
4. Shen, F. and S.L. Gaffen (2008) *Cytokine* **41**:92.
5. You, Z. *et al.* (2006) *Cancer Res.* **66**:175.
6. You, Z. *et al.* (2007) *Neoplasia* **9**:464.
7. Gerritsen, M.E. *et al.* (2003) *Br. J. Pharmacol.* **140**:595.
8. Kokubu, T. *et al.* (2008) *J. Histochem. Cytochem.* **56**:89.
9. Toy, D. *et al.* (2006) *J. Immunol.* **177**:36.
10. GenBank Accession # Q96F46.
11. Haudenschild, D. *et al.* (2002) *J. Biol. Chem.* **277**:4309.
12. Kramer, J.M. *et al.* (2007) *J. Immunol.* **179**:6379.
13. Kuestner, R.E. *et al.* (2007) *J. Immunol.* **179**:5462.
14. Haudenschild, D.R. *et al.* (2006) *Prostate* **66**:1268.
15. Kramer, J.M. *et al.* (2006) *J. Immunol.* **176**:711.