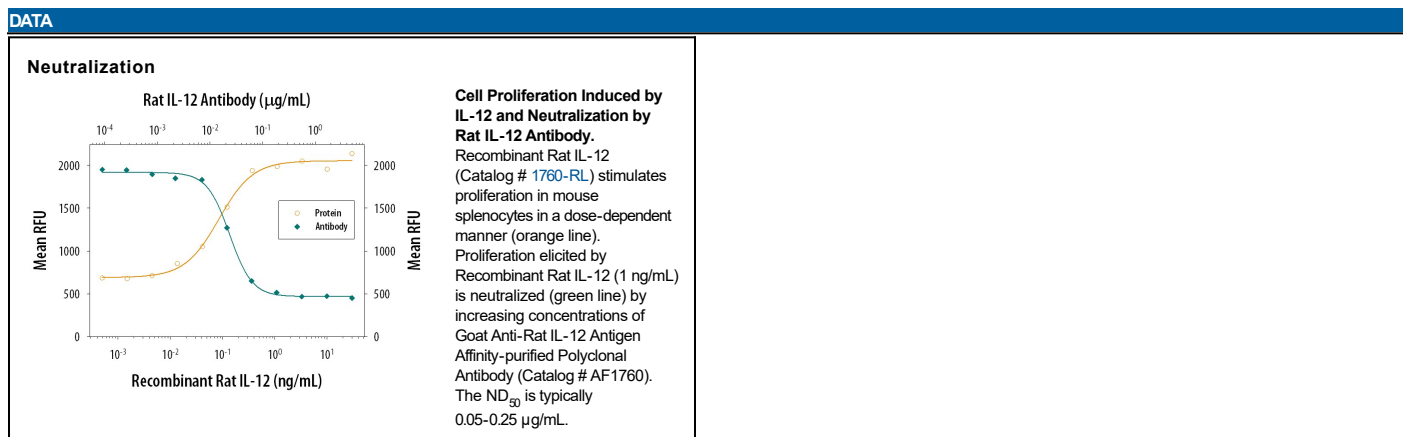


DESCRIPTION	
<b>Species Reactivity</b>	Rat
<b>Specificity</b>	Detects rat IL-12 in direct ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant mouse IL-12 and less than 5% cross-reactivity with recombinant human IL-12 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant rat IL-12 p40: Met23-Ser335; p35: Arg23-Ser215 Accession # p40: NP_072133; p35: Q9R103
<b>Endotoxin Level</b>	<0.30 EU per 1 µg of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS	
<b>Please Note:</b> Optimal dilutions should be determined by each laboratory for each application. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website.	
	<b>Recommended Concentration      Sample</b>
<b>Western Blot</b>	0.1 µg/mL      Recombinant Rat IL-12 (Catalog # 1760-RL)
<b>Neutralization</b>	Measured by its ability to neutralize IL-12-induced proliferation in mouse splenocytes. The Neutralization Dose (ND <sub>50</sub> ) is typically 0.05-0.25 µg/mL in the presence of 1 ng/mL Recombinant Rat IL-12. This antibody will also neutralize rIL-23 activity.



PREPARATION AND STORAGE	
<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

#### BACKGROUND

Interleukin 12 (IL-12) is the founding member of the IL-12 family of heterodimeric cytokines, which have important immunological functions. IL-12 is composed of two disulfide-linked subunits of 35 kDa and 40 kDa, respectively. The 35 kDa subunit (p35) is an  $\alpha$ -helical protein homologous to IL-6 and G-CSF. The 40 kDa subunit (p40) contains one fibronectin type III and one Ig C2-like domain, and has a high degree of structural homology to type I cytokine receptors. Whereas p35 subunit is unique to IL-12, the p40 subunit is also utilized in IL-23. Mature rat p35 is a 194 amino acids (aa) protein that is secreted as a heterodimer linked to p40. It contains three potential N-linked glycosylation sites and shares 86%, and 58% aa sequence identity with mouse and human p35, respectively. Mature rat p40 contains 313 aa and can exist in multiple forms, including monomer, homodimer, heterodimer linked to p19 (forming IL-23), and heterodimer linked to p35 (forming IL-12). Mature rat p40 shows 92% and 66% aa sequence identity to mouse and human p40, respectively. Cells known to produce IL-12 include macrophages, dendritic cells, monocytes, Langerhans cells, neutrophils, and keratinocytes. The activities of IL-12 are mediated by the receptor complex composed of two type I transmembrane proteins: a 100 kDa ligand-binding subunit (IL-12 R $\beta$ 1) and a 130 kDa signal transducing subunit (IL-12 R $\beta$ 2). IL-12 facilitates hematopoietic stem cell proliferation, induces NK cell proliferation, and potentiates the expansion and late activation of Th1 CD4<sup>+</sup> T cells (1-4).

#### References:

1. Park, A.Y. and P. Scott (2001) *Scand. J. Immunol.* **53**:529.
2. Trinchieri, G. *et al.* (2003) *Immunity* **19**:641.
3. Brombacher, F. *et al.* (2003) *Trends Immunol.* **24**:207.
4. Lankford, C.S. and D.M. Frucht (2003) *J. Leukoc. Biol.* **73**:49.