

**DESCRIPTION**

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human IL-18/IL-1F4 in direct ELISAs. In a sandwich immunoassay, with Goat Anti-Human IL-18 BPa Antigen Affinity Purified Polyclonal Antibody (Catalog # <a href="#">AF119</a> ) the human IL-18/IL-18 BPa complex is detected.
<b>Source</b>	Recombinant Monoclonal Rabbit IgG Clone # 1072H
<b>Purification</b>	Protein A or G purified from cell culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human IL-18/IL-1F4 Tyr37-Asp193 Accession # Q14116
<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.

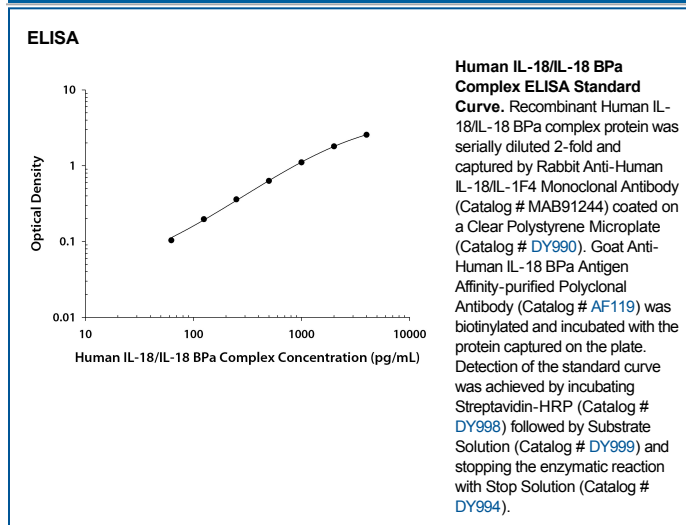
**APPLICATIONS**

**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.

**ELISA** This antibody functions as an ELISA capture antibody when paired with Goat Anti-Human IL-18 BPa Antigen Affinity-purified Polyclonal Antibody (Catalog # [AF119](#)). This antibody pair detects the human IL-18/IL-18 BPa complex.

*This product is intended for assay development on various assay platforms requiring antibody pairs. We recommend the Human IL-18/IL-18 BPa Complex DuoSet ELISA Kit (Catalog # [DY8936-05](#)) for convenient development of a sandwich ELISA or the Human IL-18 BPa Quantikine ELISA Kit (Catalog # [DBP180](#)) for a complete optimized ELISA.*

**DATA**



**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.5 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-18 (IL-18) is a proinflammatory cytokine in the IL-1 family that exerts distinct immune effects depending on the local cytokine environment. It is expressed as a 24 kDa precursor by endothelial and epithelial cells, keratinocytes,  $\gamma\delta$  T cells, and phagocytes. The precursor is activated intracellularly by Caspase-1 mediated proteolysis to release the 17 kDa mature cytokine. The precursor can also be released by necrotic cells for extracellular cleavage by multiple proteases. IL-18 activation is induced by infection or tissue damage and contributes to disease pathology in chronic inflammation (1-3). IL-18 binds to the widely expressed IL-18 R $\alpha$  which recruits IL-18 R $\beta$  to form the signaling receptor complex (4, 5). Its bioactivity is negatively regulated by interactions with IL-18 binding proteins and virally encoded IL-18BP homologs (6). In the presence of IL-12 or IL-15, IL-18 enhances anti-viral Th1 immune responses by inducing IFN- $\gamma$  production and the cytolytic activity of CD8<sup>+</sup> T cells and NK cells (7, 8). In the absence of IL-12 or IL-15, however, IL-18 promotes production of the Th2 cytokines IL-4 and IL-13 by CD4<sup>+</sup> T cells and basophils (9, 10). In the presence of IL-1 $\beta$  or IL-23, IL-18 induces the antigen-independent production of IL-17 by  $\gamma\delta$  T cells and CD4<sup>+</sup> T cells (11). IL-18 also promotes myeloid dendritic cell maturation and triggers neutrophil respiratory burst (12, 13). In cancer, IL-18 exhibits diverse activities including enhancing anti-tumor immunity, inhibiting or promoting angiogenesis, and promoting tumor cell metastasis (14). Mature human IL-18 shares approximately 63% amino acid sequence identity with mouse and rat IL-18 (15). Alternative splicing in human ovarian cancer generates an isoform that is resistant to Caspase-1 activation (16). A cell surface form can be expressed on M-CSF induced macrophages and released in response to bacterial endotoxin (17).

**References:**

1. Dinarello, C.A. *et al.* (2013) *Front. Immunol.* **4**:289.
2. Smith, D.E. (2011) *J. Leukoc. Biol.* **89**:383.
3. Gu, Y. *et al.* (1997) *Science* **275**:206.
4. Torigoe, K. *et al.* (1997) *J. Biol. Chem.* **272**:25737.
5. Cheung, H. *et al.* (2005) *J. Immunol.* **174**:5351.
6. Novick, D. *et al.* (1999) *Immunity* **10**:127.
7. Fehniger, T.A. *et al.* (1999) *J. Immunol.* **162**:4511.
8. Yoshimoto, T. *et al.* (1998) *J. Immunol.* **161**:3400.
9. Yoshimoto, T. *et al.* (2000) *Nat. Immunol.* **1**:132.
10. Kroeger, K.M. *et al.* (2009) *J. Leukoc. Biol.* **86**:769.
11. Lalor, S.J. *et al.* (2011) *J. Immunol.* **186**:5738.
12. Li, J. *et al.* (2004) *Cell. Immunol.* **227**:103.
13. Elbim, C. *et al.* (2005) *Clin. Diagn. Lab. Immunol.* **12**:436.
14. Fabbri, M. *et al.* (2015) *J. Leukoc. Biol.* **97**:665.
15. Ushio, S. *et al.* (1996) *J. Immunol.* **156**:4274.
16. Gaggero, A. *et al.* (2004) *Oncogene* **23**:7552.
17. Bellora, F. *et al.* (2012) *Eur. J. Immunol.* **42**:1618.