PRODUCT INFORMATION

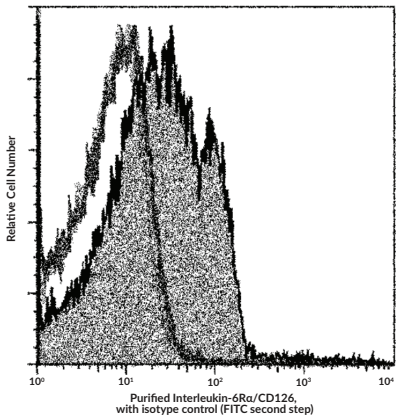
Interleukin-6Rα/CD126 Rabbit Monoclonal Antibody (Clone 033)

Item No. 38089

Overview and Properties

Contents:	This vial contains 50, 100 µl, or 1 ml of protein A-affinity purified monoclonal antibody
Synonyms:	IL-6Rα, Interleukin-6 Receptor Subunit α
Immunogen:	Recombinant mouse IL-6Rα
Cross Reactivity:	(+) IL-6Rα, sIL-6Rα
Species Reactivity:	(+) Mouse
Form:	Liquid
Storage:	-80°C (as supplied)
Stability:	≥1 year
Storage Buffer:	0.2 µm filtered solution in PBS
Clone:	033
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA (capture) and Flow cytometry (FC); the recommended starting dilution is 1:250-1:2,000 for ELISA (capture) and 1:25-1:100 for FC. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



Flow cytometric analysis of mouse Interleukin-6Rα/CD126 expression on BABL/c splenocytes. Cells were stained with purified Interleukin-6Rα/CD126 Rabbit Monoclonal Antibody (Clone 033), followed by a FITC-conjugated second step antibody. The fluorescence histograms were derived from gated events with the forward and side light-scatter characteristics of intact cells.

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION

Description

Interleukin-6Rα (IL-6Rα), also known as CD126, is a type I cytokine receptor.[1] It is composed of an immunoglobulin-like domain, a cytokine-binding domain, a transmembrane domain, and a cytoplasmic domain and forms a heteromeric complex with IL-6 and gp130, which is the signal transducing subunit of the IL-6R that primarily acts through the JAK/STAT3 pathway.[2] IL-6Rα is expressed in hepatocytes and monocytes and is localized to the plasma membrane but also exists as a soluble form (sIL-6Rα) that is primarily generated *via* proteolytic cleavage of membrane-bound IL-6Rα, but can also be formed *via* alternative splicing.[3-5] Binding of IL-6 to membrane-bound IL-6Rα, known as classical signaling, upregulates the synthesis of acute phase proteins, induces lipolysis in the liver, and induces the differentiation of T and B cells and is primarily anti-inflammatory.[6,7] Trans-signaling consists of IL-6 binding to sIL-6R, which has various pro-inflammatory effects. Knockdown of *IL6R* increases sensitivity to tamoxifen in breast cancer cells.[8] Formulations containing chimeric anti-IL-6Rα monoclonal antibodies have been used in the treatment of rheumatoid arthritis, idiopathic arthritis, giant cell arteritis, cytokine release syndrome, and COVID-19. Cayman's Interleukin-6Rα/CD126 Rabbit Monoclonal Antibody (Clone 033) can be used for ELISA (capture) and flow cytometry (FC) applications.

References

1. Hirano, T. Interleukin 6 and its receptor: Ten years later. *Int. Rev. Immunol.* **16(3-4)**, 249-284 (1998).
2. Salvati, A.L., Lahm, A., Paonessa, G., *et al.* Interleukin-6 (IL-6) antagonism by soluble IL-6 receptor α mutated in the predicted gp130-binding interface. *J. Biol. Chem.* **270(20)**, 12242-12249 (1995).
3. Bauer, J., Lengyel, G., Bauer, T.M., *et al.* Regulation of interleukin-6 receptor expression in human monocytes and hepatocytes. *FEBS Lett.* **249(1)**, 27-30 (1989).
4. Flynn, C.M., Kespohl, B., Daunke, T., *et al.* Interleukin-6 controls recycling and degradation, but not internalization of its receptors. *J. Biol. Chem.* **296**, 100434 (2021).
5. Riethmueller, S., Somasundaram, P., Ehlers, J.C., et al. Proteolytic origin of the soluble human IL-6R in vivo and a decisive role of N-glycosylation. *PLoS Biol.* **15(1)**, e2000080 (2017).
6. Del Giudice, M. and Gangestad, S.W. Rethinking IL-6 and CRP: Why they are more than inflammatory biomarkers, and why it matters. *Brain Behav. Immun.* **70,** 61-75 (2018).
7. Rose-John, S. Interleukin-6 family cytokines. *Cold Spring Harb. Perspect. Biol.* **10(2)**, a028415 (2018).
8. Tsoi, H., Man, E.P.S., Chau, K.M., *et al.* Targeting the IL-6/STAT3 signalling cascade to reverse tamoxifen resistance in estrogen receptor positive breast cancer. *Cancers (Basel)* **13(7)**, 1511 (2021).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM