

## Technical Data Sheet

## Recombinant Human IL-6

## Product Information

<b>Material Number:</b>	<b>550071</b>
<b>Size:</b>	10 µg
<b>Concentration:</b>	200 µg/ml
<b>Reactivity:</b>	QC Testing: Human
<b>Storage Buffer:</b>	Frozen aqueous buffered solution containing BSA and glycerol.

## Description

Interleukin-6 (IL-6) is a potent lymphoid cell growth factor which affects B lymphocytes, T lymphocytes, and hybridoma cells. It will also affect cytotoxic T cells in combination with other factors, such as IL-2 and interferon- $\gamma$ . Human IL-6 is a 20.5 kD protein containing 184 amino acid residues. Recombinant human IL-6 (Cat. No. 550071) is supplied as a frozen liquid comprised of 0.22 µm filtered aqueous buffered solution, glycerol and bovine serum albumin, with no preservatives. Recombinant human IL-6 is  $\geq 95\%$  pure as determined by SDS-PAGE, and an absorbance assay based on the Beers-Lambert law. The endotoxin level is  $\leq 0.1$  ng per µg of human IL-6, as measured in a chromogenic LAL assay.

## Preparation and Storage

Store product at  $-80^{\circ}\text{C}$  prior to use or for long term storage of stock solutions.

Rapidly thaw and quick-spin product prior to use.

Avoid multiple freeze-thaws of product.

This preparation contains no preservatives, thus it should be handled under aseptic conditions.

## Application Notes

## Application

ELISA Standard	Routinely Tested
Bioassay	Tested During Development
Blocking	Tested During Development

## Recommended Assay Procedure:

Upon initial thawing, recombinant human IL-6 (Cat. No. 550071) should be aliquoted into polypropylene microtubes and frozen at  $-80^{\circ}\text{C}$  for future use. Alternatively, the product can be diluted in sterile neutral buffer containing not less than 0.5 - 10 mg/mL carrier protein, such as human or bovine albumin, aliquoted and stored at  $-80^{\circ}\text{C}$ . For *in vitro* biological assay use, carrier protein concentrations of 0.5 - 1.0 mg/mL are recommended. For use as an ELISA standard, carrier protein concentrations of 5 - 10 mg/mL are recommended. Failure to add carrier protein or store at indicated temperatures may result in a loss of activity. Carrier proteins should be pre-screened for possible effects in each investigator's experimental system. Carrier proteins may have an undesired influence on experimental results due to toxicity, high endotoxin levels or possible blocking activity.

**ELISA Standard:** Recombinant human IL-6 (Cat. No. 550071) can be useful as a quantitative standard for measuring human IL-6 protein levels using sandwich ELISA with the purified MQ2-13A5 antibody (Cat. No. 554543) as a capture antibody and biotinylated MQ2-39C3 (Cat. No. 554546) as the detection antibody. To obtain linear standard curves, investigators may want to consider using doubling dilutions of recombinant human IL-6 from 2,000 - 15 pg/mL to be included for each ELISA plate. For measuring human IL-6 in serum or plasma, investigators are highly encouraged to use the BD OptEIA™ Human IL-6 ELISA Set (Cat. No. 555220) or the BD OptEIA™ Human IL-6 ELISA Kit II (Cat. No. 550799).

**Bioassay:** Investigators are advised that the Bioassay application is not routinely tested for this material and are highly encouraged to both titrate this material and include appropriate controls in relevant experiments. An activity range of  $0.5\text{--}3.0 \times 10^8$  units/mg, encompassing an  $\text{ED}_{50} = 30\text{--}200$  pg/mL, has previously been reported using TF-1 as indicator cells for proliferation, with a unit defined as the amount of material needed to stimulate a half-maximal response at cytokine saturation.

**Blocking:** Recombinant human IL-6 (Cat. No. 550071) can be useful as a blocking control for flow cytometric analysis when used with FITC- or PE-conjugated MQ2-13A5 antibodies (Cat. No. 554544 or 554545), or FITC- or PE-conjugated MQ2-6A3 antibodies (Cat. No. 554696 or 554697). Investigators are advised that the blocking application is not routinely tested for this material. Intracellular cytokine staining techniques and the use of blocking controls are described in detail by C. Prussin and D. Metcalfe.

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## Suggested Companion Products

Catalog Number	Name	Size	Clone
554543	Purified Rat Anti-Human IL-6	0.5 mg	MQ2-13A5
554546	Biotin Rat Anti-Human IL-6	0.5 mg	MQ2-39C3
555220	Human IL-6 ELISA Set	20 plates	(none)
550799	Human IL-6 ELISA Kit II	2 plates	(none)
554544	FITC Rat Anti-Human IL-6	0.1 mg	MQ2-13A5
554545	PE Rat Anti-Human IL-6	0.1 mg	MQ2-13A5
554696	FITC Rat Anti-Human IL-6	0.1 mg	MQ2-6A3
554697	PE Rat Anti-Human IL-6	0.1 mg	MQ2-6A3

## Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. Please refer to [www.bdbiosciences.com/pharming/en/protocols](http://www.bdbiosciences.com/pharming/en/protocols) for technical protocols.

## References

Hirano T, Yasukawa K, Harada H, et al.. Complementary DNA for a novel human interleukin (BSF-2) that induces B lymphocytes to produce immunoglobulin. *Nature*. 1986; 324(6092):73-76. (Biology)

Kitamura T, Takaku F, Miyajima A. IL-1 up-regulates the expression of cytokine receptors on a factor-dependent human hemopoietic cell line, TF-1. *Int Immunol*. 1991; 3(6):571-577. (Biology)

Prussin C, Metcalfe DD. Detection of intracytoplasmic cytokine using flow cytometry and directly conjugated anti-cytokine antibodies. *J Immunol Methods*. 1995; 188(1):117-128. (Methodology)

Van Snick J. Interleukin-6: an overview. *Annu Rev Immunol*. 1990; 8:253-278. (Biology)

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