

PRODUCT INFORMATION

PeliKine compact human IL-6 kit

Interleukin 6 (IL-6) is a key inflammatory mediator linked to various diseases, including rheumatoid arthritis and septic shock. The PeliKine compact IL-6 ELISA kit offers a rapid and accurate method for measuring IL-6 levels in biological samples, improving upon the time-consuming and interference-prone traditional bioassays.

Article number	M1916
Product group	Medical diagnostic / biomedical research kits.
Technique	ELISA Enzyme-Linked Immunosorbent Assay

Product specific information



Sanquin Reagents B.V.
Plesmanlaan 125
1066 CX Amsterdam
The Netherlands

Phone: +31 20 5123599
Fax: +31 20 5123570
reagents@sanquin.nl
www.sanquin.org/reagents

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Research use only

Introduction

Interleukin 6 (IL-6) is a mediator of the inflammatory response and is involved in the induction of acute phase proteins [1,2,3,4] and the development of fever [5]. A marked correlation between IL-6 levels and inflammatory processes has been demonstrated in synovial fluid and serum of rheumatoid arthritis patients [6,7,8] and in serum of patients with burns [9,10]. It was demonstrated that in recipients of kidney transplants the IL-6 levels in serum and urine hallmark the onset of rejection episodes [11,12]. Elevated IL-6 levels were also observed in sera of patients with septic shock, multiple myeloma and alcoholic hepatitis, and a significant difference between IL-6 levels of survivors and non-survivors was found [13,14,15].

Bioassays for the quantification of IL-6, based on the proliferation of B-cell hybridomas have been used for several years [16,17,18]. These assays, although sensitive, are time consuming and susceptible to interference by other substances.

This PeliKine compact IL-6 ELISA kit [19] has been developed for faster, more reproducible and specific quantification of human IL-6 (huIL-6) in plasma and other body fluids, as well as in cell-culture supernatant

Assay procedure

See Assay procedure for PeliKine compact ELISA kit:

1. from www.sanquin.org/reagents → search for product number
2. by contacting your local distributor
3. by e-mail: reagents@sanquin.nl
4. phone: +31 20 5123599
5. fax: +31 20 5123570

Material Safety Data Sheet

The Material Safety Data Sheet (SDS) for this product can be found on our website: www.sanquin.org/reagents → search for product number.

Kit component list

Quantity	Kit component	Volume	Cap colour
1 vial	coating antibody 100-fold concentrated	375 µl	red
1 vial	blocking reagent 50-fold concentrated	2 ml	transparent
1 vials	IL-6 standard see label	750µl	black
1 vial	biotinylated antibody 100-fold concentrated	375 µl	yellow
1 vial	streptavidin-poly-HRP conjugate 10,000-fold concentrated	20 µl	brown
1 bottle	HPE-dilution buffer 5-fold concentrated	55 ml	
3 pcs	microtiter plate + lid	-	
10 pcs	plate seals	-	

Sensitivity

MEAN calculated zero signal + 3 SD : 0.2 – 0.4 pg/ml (shake – static incubation)
2x (MEAN calculated zero signal) : 0.5 – 1.0 pg/ml (shake – static incubation)

Expected values

IL-6 values in fresh serum and plasma samples of healthy individuals are below 20 pg/ml.

Specificity

No crossreactivity was observed with the following recombinant human proteins: IL-1 α , IL-1 β , IL-2, IL-3, IL-4, IL-5, IL-7, IL-8, IL-9, IL-10, IL-11, IL-13, Macrophage Colony Stimulating Factor (M-CSF), Granulocyte Colony Stimulating Factor (G-CSF), Granulocyte/Macrophage Colony Stimulating Factor (GM-CSF), Leukemia Inhibitory Factor (LIF), RANTES, Stem Cell Factor/ Mast Cell Factor (SCF/MCF), Transforming Growth Factor β -1 (TGF β -1), Tumour Necrosis Factor α (TNF- α), Tumour Necrosis Factor β (TNF β /Lymphotoxin), and Interferon α (IFN α).

References

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Standard

A recombinant huIL-6 standard has been calibrated against the WHO First International Standard (IL-6 89/548; National Institute for Biological Standards and Control, Potter Bar, Hertfordshire, U.K. 1 WHO Unit = 10 pg IL-6, see ref [20].

The kit contains one black-capped vial with 4000 pg/ml recombinant huIL-6

Avoid repeated freeze-thawing of the standard, although experimental data have shown that up to 3 freeze-thaw cycles have no effect on the IL-6 levels of the standard.

Standard curve

Label 7 tubes, one tube for each dilution: 450, 150, 50, 16.7, 5.6, 1.9 and 0.6 pg/ml. Pipette 497 µl of working-strength dilution buffer into the tube labelled 450 pg/ml and 400 µl of workingstrength dilution buffer into the other tubes.

Transfer 63 µl of the IL-6 standard (4000 pg/ml) into the first tube labelled 450 pg/ml, mix well and transfer 200 µl of this dilution into the second tube labelled 150 pg/ml.

Repeat the serial dilutions five more times by adding 200 µl of the previous tube of diluted standard to the 400 µl of dilution buffer.

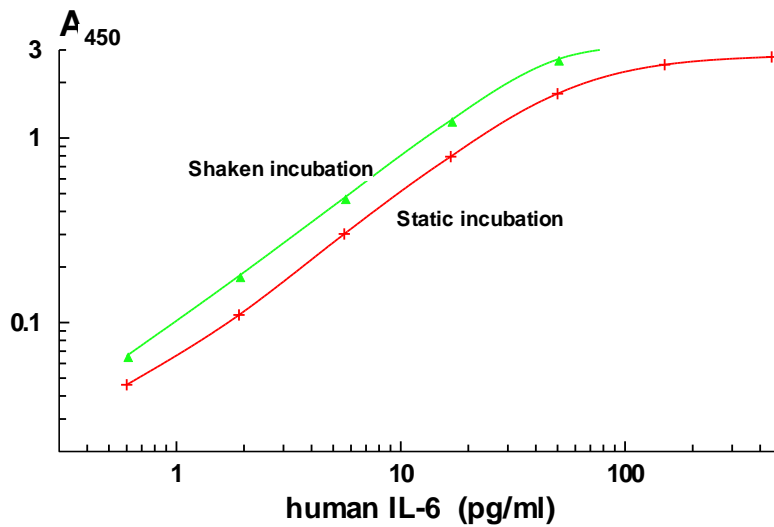
The standard curve will contain 450, 150, 50, 16.7, 5.6, 1.9, 0.6 and 0 pg/ml (dilution buffer).

It is recommended to prepare two separate series for each assay.

Samples

It is recommended to dilute the test samples at least 1:2 in working-strength dilution buffer. If high levels of IL-6 (outside the standard curve) are expected in the test samples, additional dilutions of sample i.e. 1:10 and 1:100 should also be prepared

Typical standard curve



	STATIC INCUBATION	SHAKEN INCUBATION
	Calculated mean absorbance at 450 nm	
substrate blank	0	0
0 pg/ml	0.014	0.019
0.6 pg/ml	0.046	0.066
1.9 pg/ml	0.110	0.179
5.6 pg/ml	0.302	0.474
16.7 pg/ml	0.793	1.245
50 pg/ml	1.738	2.667
150 pg/ml	2.497	> 3.000
450 pg/ml	2.750	> 3.000

DO NOT USE THESE DATA TO CONSTRUCT A STANDARD CURVE FOR SAMPLE VALUE CALCULATIONS