

Important information about Biochrom AG cytokines

Protein stability

Lyophilized cytokines are processed in such a way that they can be stored for two weeks at room temperature. However, Biochrom AG recommends storing lyophilized products longer-term at $-20\text{ }^{\circ}\text{C}$, if not noted otherwise on the data sheet.

- **Recommendation for reconstituted solutions and for fluid cytokines:** The solutions can be stored short-term at a temperature of $+4\text{ }^{\circ}\text{C}$. For longer storage, the protein solutions should initially be aliquoted (in order to prevent freezing and thawing). They can then be stored at $-20\text{ }^{\circ}\text{C}$. Please note that any freezing or thawing can denature the protein!

Lyophilized protein residues are not always visible in the vial

Most Biochrom AG cytokines do not contain any stabilizers or additives (e.g. BSA, HSA, sucrose, etc.). They are normally lyophilized with a minimum amount of salt. As a result small amounts of protein can be deposited on the side of the vial during lyophilization, sometimes as a thin film, sometimes invisible.

- **Recommendation:** Before opening, each vial should be centrifuged in a microcentrifuge for 20 to 30 seconds, in order to collect any protein at the bottom. Biochrom AG quality control procedures ensure that each vial contains the correct amount of product!

Data sheets

The relevant information relating to each product appears on the data sheet that is shipped with the product. Please read this information carefully to obtain useful instructions for reconstitution and storage. If you need additional information after reading the data sheet please contact our customer service department.

Specific activity

The ED_{50} is defined as the cytokine concentration at which the activity is 50 % of the maximum response. This method of expressing potency should only be used for cytokines whose dose-response curves are sigmoidal in shape. The formula for converting the activity as an ED_{50} in ng/ml to specific activity in units/mg is:

$$\text{Specific activity (units/mg)} = \frac{1 \times 10^6}{\text{ED}_{50}(\text{ng/ml})}$$

Biochrom AG cytokines are carefully analysed

- **Authenticity:**
by N-terminal sequence analysis, and, when possible, by SDS-PAGE, RP-HPLC, and Mass Spectrometry analyses versus standards
- **Purity:**
by SDS-PAGE and RP-HPLC analysis
- **Biological activity:**
by the relevant in vitro or in vivo bioassay
- **Protein content:**
by UV spectroscopy, SDS-PAGE analysis and, when possible, by HPLC analysis versus the calibrated standard solution
- **Endotoxin contamination:**
by kinetic LAL method
- **Microbiological contamination:**
by membrane filtration method; protein solutions are sterile-filtered prior to vialing