



IL-6 High Sensitivity Controls

Catalog Number: ENZ-KIT178-CTL

Size: 1 vial/low, 1 vial/medium, 1 vial/high

Background

Interleukin-6 (IL-6) is a pleiotropic pro-inflammatory cytokine, involved in the induction, growth, and differentiation of cells in the immune and hematopoietic systems, and initiates and coordinates inflammatory reaction¹. Formerly known as B-cell differentiation factor², IL-6 is a 24 kDa protein that is 212 amino acids in length. It is produced by various types of cells, such as macrophages, T-cells, B-cells and fibroblasts³. IL-6 is one of the essential factors for antibody production in B cells, a potent growth factor for myeloma and plasmacytoma cells, and induces acute phase proteins in hepatocytes and promotes expansion of activated T-cells⁴. Levels of IL-6 have been shown to increase in serum as a result of burn trauma and sepsis and also in cerebrospinal fluid with acute viral or bacterial infections of the central nervous system (CNS)⁵. Increased levels of IL-6 are observed in several inflammatory diseases, such as rheumatoid arthritis, Castleman's disease and systemic juvenile idiopathic arthritis as well as playing a critical role in the pathogenesis of autoimmune disease⁶. In addition to all of the functions described above, IL-6 also acts as a myokine, which is a cytokine produced by working muscle during exercise⁷.

Intended Use and Description

The intention is for these products to be used as quantitative controls for the determination of IL-6 concentration in biological matrices, such as serum and plasma. The concentrations have been determined using the Enzo Life Sciences IL-6 (human) high sensitivity ELISA kit (ENZ-KIT178-0001). The controls were lyophilized in porcine serum and contain human IL-6 at a low, medium and high concentration.

Storage and Stability

The lyophilized controls should be stored at or below -20°C. The lyophilized controls can be stored at -20°C short term but should be stored at -80°C for long term storage. The lyophilized material should be used before the expiration date indicated on the lot specific Certificate of Analysis.

Reagent Preparation

Each control should be reconstituted in 0.5mL deionized or distilled water. They are intended to be single-use only.

Procedure and Expected Values

Please refer to the appropriate lot specific CoA for lot specific ranges for the High, Middle, and Low IL-6 (human) high sensitivity controls.



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Technical Information

- The lot specific ranges described on the CoA were determined using the Enzo Life Sciences IL-6 (human) high sensitivity ELISA Kit (ENZ-KIT178-0001). Use of ELISA kits other than the IL-6 (human) high sensitivity ELISA Kit (ENZ-KIT178-0001) could result in values different than those printed on the corresponding lot Certificate of Analysis.
- Additionally, please confirm that the correct volume of deionized or distilled water was used for reconstitution if the expected values are not obtained.

References

1. Xia, W. *et al.* (2015) *Neural Regeneration Research*. 10 (4) 610-617.
2. Umeshita, K. *et al.* (1996) *Annals of Surgery*. 223 (2), 204-211.
3. Giannitrapani, L. *et al.* (2013) *World Journal of Gastroenterology*. 19 (16), 2449-2455.
4. Kishimoto, T. (1989) *Blood Journal*. 74, 1-10.
5. Van Snick, J. (1990) *Annu Rev Immunol*. **8**, 253.
6. Mihara, M. *et al.* (2012) *Clinical Science*. 122, 143-159.
7. Muñoz-Cánoves, P. *et al.* (2013) *FEBS Journal*. 280, 4131-4148.

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