



Laboratory Services

Important Test Announcement

CXCL9 QUANTITATION, SERUM

New Test Codes: CXCL9U

Live Date: 12/16/2024

Effective December 16, 2024 CXCL9 Quantitation testing will be performed in-house. The in-house test, **CXCL9U** will replace the current send out, XCXCL1 that is sent to Cincinnati Children's. XCXCL1 will no longer be orderable.

Methodology: Enzyme-linked immunosorbent assay (ELISA)

Performed: Monday - Friday

Turnaround Time: **CXCL9U** – 36 hours

Specimen Required:

- **Collect :** Red tube, no gel
- **Specimen Volume:** 2 mL
- **Specimen Preparation:** Must be centrifuged and serum separated within 2 hours
- **Storage/Transport/Temperature/Conditions:** Transport to lab immediately at room temperature
- **Unacceptable Conditions:** Wrong collection tube, collected in tube with gel separator
- **Stability:** Whole Blood: 2 hours room temperature, Serum: 48 hours frozen within 2 hours of collection
- **Comments:**
 - This assay quantifies the levels of CXCL9 in human blood (serum). Chemokine (C-X-C motif) ligand 9 (also called monokine-induced by interferon-gamma or MIG) is a chemokine involved in regulating immune cell migration, differentiation and activation. An interferon-gamma (IFN- γ)-induced cytokine, CXCL9 is involved in Th1 polarization by binding to the chemokine receptor CXCR3, which in turn produces other pro-inflammatory cytokines (i.e. IFN- γ , TNF- α , IL-2). This cascade of events recruits immune cells to sites of infection and inflammation, but since CXCL9 can stimulate IFN- γ production, it can produce a positive feedforward loop, reiterating the Th1 immune response and enhancing the inflammatory process. This can be seen in diseases such as systemic juvenile idiopathic arthritis (sJIA), particularly during macrophage activation syndrome (MAS), hemophagocytic lymphohistiocytosis (HLH), adult-onset Still's disease (AOSD), Graves' disease (GD), rheumatoid arthritis (RA), systemic lupus erythematosus (SLE) and SARS-CoV-2 infection, among others. CXCL9 can serve as a biomarker for disease activity characterized by IFN-gamma-mediated hyperinflammation and can be used to monitor response to empalumab (neutralizing antibody against IFN- γ) in HLH and certain contexts of graft failure in hematopoietic cell transplantation. Measurement of CXCL9/IL-18 and CXCL9/IL-6 ratios can be useful in the diagnostic evaluation of HLH/MAS and sepsis respectively.

If you have any additional questions about **CXCL9U**, please refer to the Laboratory Test Directory or call Client Services at 614-722-5477.