CytoDx™

CYTOKINE RESPONSE PROFILE

Alterations in the immune system that result in chronic inflammation and autoimmunity have been linked to a wide range of health conditions and diseases. Cytokines are important mediators of many immune responses, and imbalances in cytokines have been shown to play key roles on chronic inflammation and autoimmunity.

Most cytokines can be generally characterized as pro-inflammatory or anti-inflammatory, depending on their primary effects on immune responses. Immune responses are often further characterized by the type of T helper (Th) cell involved.

CytoDx™ PANEL ENABLES PRACTITIONERS TO:

Assess systemic immune status:

Pro-inflammatory / anti-inflammatory cytokine balance
Th1, Th2, Th17 and T-regulatory cytokine responses
Efficacy of immune balancing and modulating approaches

<table>
<thead>
<tr>
<th>CytoDx™ Analytes:</th>
<th>GM-CSF</th>
<th>IL-5</th>
<th>IL-10</th>
<th>IL-17A</th>
</tr>
</thead>
<tbody>
<tr>
<td>IL-1beta</td>
<td>IL-6</td>
<td>IL-12 p70</td>
<td>IL-18</td>
<td></td>
</tr>
<tr>
<td>IL-2</td>
<td>IL-7</td>
<td>IL-13</td>
<td>IFN-gamma</td>
<td></td>
</tr>
<tr>
<td>IL-4</td>
<td>IL-8</td>
<td>IL-15</td>
<td>TNF-alpha</td>
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GUT-IMMUNE CONNECTION

“It is now widely recognized that the gut – and especially the gut microbiome – plays a critical role in regulating immune function, and has been shown to affect circulating cytokines such IL-6, TNF-alpha, and IL-17.”
Empowering New Clinical Insights

Once again, Diagnostic Solutions Laboratory is on the forefront of laboratory science, bringing clinicians the latest revolutionary clinical assessment tool, the CytoDx™.

With an assessment of 16 cytokines, the CytoDx™ provides clinicians with powerful insight into their patient's systemic immune regulatory function, allowing for advanced health assessment and individualized treatment plans based on specific immune responses.

<table>
<thead>
<tr>
<th>T helper type:</th>
<th>Th1 / Th17</th>
<th>Th2</th>
<th>T regulatory</th>
</tr>
</thead>
</table>
| **Cytokines involved** | IFN-gamma  
IL-1beta  
IL-2  
TNF-alpha  
IL-12 p70  
IL-17A | IL-4  
IL-5  
IL-6  
IL-10  
IL-13 | IL-10 |
| **Normal roles** | Eliminate certain pathogenic bacteria, viruses and other microorganisms | Promote antibody production by B cells  
Eliminate extracellular parasites | Limit inflammatory responses  
Promote immunotolerance |
| **Conditions associated with imbalances** | Hashimoto's thyroiditis  
Rheumatoid arthritis  
Multiple sclerosis  
Psoriasis  
Crohn's Disease  
Celiac Disease  
Atherosclerosis  
Type 1 Diabetes | Food allergies  
Seasonal allergies  
Asthma  
Atopic dermatitis  
Eczema  
Chemical sensitivities  
Chronic fatigue syndrome | Autoimmune diseases  
Inflammatory bowel disease |

**SPECIMEN REQUIREMENTS**
Single serum collection shipped frozen.

**GETTING STARTED**
Account setup forms are available on our website, via email at cs@diagnosticsolutionslab.com, or by phone at 877-485-5336

**COLLECTION KIT CONTENTS:**
Test kits include specimen collection instructions, test request form, SST tube, specimen bag, Ice Pack, and a pre-paid Clinical Pak mailer.

**TEST TURN AROUND TIME:** 5-7 days