MMP-3 Lx Reagent

**MMP-3**

Matrix metalloproteinase 3 (MMP-3) is a proteolytic enzyme produced by synovial cells, fibroblasts, and macrophages in joints. It is believed to be involved in joint destruction as it decomposes proteoglycans, various collagens, laminin, fibronectin that constitute articular cartilage. MMP-3 is overexpressed in the synovial tissue of patients with rheumatoid arthritis, and its blood level reflects rheumatoid activity.

**Usefulness of Measurement of Serum MMP-3**

1. **Early diagnosis**
   - We cite specificity as an adjunct to the diagnosis of RF Anti-CCP/Antibody

2. **Assessment of activity**
   - Shows response specific to the activity of synovial inflammation and reflects in symptoms of rheumatoid arthritis well.
   → *For the follow up of rheumatoid arthritis!*

3. **Prognostic prediction**
   - Serum MMP-3 levels correlate with radiographic progression at 6 to 12 months.
   → *For diagnostic prediction!*

**INTENDED**

Measurement of serum MMP-3 level

**Principle of the measurement**

Measure with a general-purpose automatic analyzer using latex immunoturbidimetric method.

**Measurement range**

- 10.0 - 1600 ng/mL

**Reference level**

- Male: 36.9 - 121 ng/mL
- Female: 17.3 - 59.7 ng/mL

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2) Shunichi Kumagai etc.: Clinical Pathology,-52: 10 2004-
3) Keiji Yokouchi etc.: New Drugs and Clinical Medicine, 50,215 (2001)
**Basic Data**

**Within-run reproducibility**

<table>
<thead>
<tr>
<th></th>
<th>Sample1</th>
<th>Sample2</th>
<th>Sample3</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Mean (ng/mL)</td>
<td>41.9</td>
<td>102.8</td>
<td>302.5</td>
</tr>
<tr>
<td>S.D.</td>
<td>1.3</td>
<td>1.3</td>
<td>1.1</td>
</tr>
<tr>
<td>CV (%)</td>
<td>3.0</td>
<td>1.2</td>
<td>0.4</td>
</tr>
<tr>
<td>Max. (ng/mL)</td>
<td>44.5</td>
<td>104.6</td>
<td>304.5</td>
</tr>
<tr>
<td>Min. (ng/mL)</td>
<td>39.5</td>
<td>99.2</td>
<td>300.6</td>
</tr>
<tr>
<td>Range (ng/mL)</td>
<td>5.0</td>
<td>5.4</td>
<td>3.9</td>
</tr>
</tbody>
</table>

**Dilution linearity**

![Dilution linearity graph]

**Pro-zone**

![Pro-zone graph]

**Limit of sensitivity**

![Limit of sensitivity graph]

**Interfering substance**

We don’t accept an effect on measurement up to below density.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolytic hemoglobin</td>
<td>500 mg/dL</td>
</tr>
<tr>
<td>Bilirubin C</td>
<td>20 mg/dL</td>
</tr>
<tr>
<td>Bilirubin F</td>
<td>20 mg/dL</td>
</tr>
<tr>
<td>Chyle</td>
<td>2,000 FTU</td>
</tr>
<tr>
<td>RF</td>
<td>1,000 IU/mL</td>
</tr>
</tbody>
</table>

**Correlativity**

![Correlativity graph]

\[
y = 0.973x + 5.073 \\
r = 0.994 \\
n = 201
\]