**Tumor necrosis factor-beta (TNF-β),** also known as Lymphotoxin-alpha, is a 25 kDa protein and member of the cytokine TNF-family, a group of cytokines known to contribute to apoptosis. TNF-β is both structurally and functionally similar to TNF-α with 35% protein sequence homology, and both bind to the same cell surface receptors (TNF-R1 and TNF-R2). It is produced by TH1 type T-cells after antigenic or mitogenic stimulation and is cytotoxic for a range of tumor cells. Genetic polymorphism within the regulatory regions of TNF-α and TNF-β (specifically 252 A to G in TNF-β) are linked to various cancer malignancies. TNF-β is a mediator of inflammatory, immunostimulatory, and antiviral responses. It may also be involved in the proper development of secondary lymphoid organs such as lymph nodes and Peyer’s patches. TNF-β has also been shown to contribute to the susceptibility of several autoimmune diseases, including graft-versus-host and rheumatoid arthritis, as well diabetes and other disorders.

The MSD Human TNF-β assay is available on 96-well 4-spot plates. This datasheet outlines the performance of the assay.

**Typical Standard Curve**

The following standard curve is an example of the wide dynamic range of the Human TNF-β assay.
Specificity
The Human TNF-β assay recognizes recombinant and native human TNF-β. This assay shows no significant non-specific binding with following recombinant human analytes: GM-CSF, IFN-γ, IL-1β, IL-2, IL-4, IL-5, IL-6, IL-8, IL-10, IL-12p40, IL-12p70, IL-13, IL-15, IL-17, TNF-α, or VEGF.

This assay recognizes native cynomolgus monkey TNF-β.

Tested Samples
Normal human serum samples were diluted 2-fold and tested with the Human TNF-β Kit. Median and range of concentrations for the sample set are displayed below. Concentrations are corrected for sample dilution.

<table>
<thead>
<tr>
<th>Sample Type</th>
<th>Statistic</th>
<th>TNF-β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Median (pg/mL)</td>
<td>74</td>
</tr>
<tr>
<td></td>
<td>Range (pg/mL)</td>
<td>34–96</td>
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<tr>
<td></td>
<td>Number of Samples</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Samples in Quantitative Range</td>
<td>8</td>
</tr>
</tbody>
</table>

References