**YKL-40** (also known as human cartilage glycoprotein 39; HC-gp39) is a 40 kDa inflammatory glycoprotein involved in the activation of the innate immune system and extracellular matrix remodeling. YKL-40 is secreted by macrophages, neutrophils, chondrocytes, vascular smooth muscle, and hepatic stellate cells. Elevated serum YKL-levels are associated with the presence and extent of coronary artery disease (CAD) and even higher YKL-40 levels have been documented in patients with myocardial infarction and both type 1 and type 2 diabetes. Enhanced expression of YKL-40 is observed in macrophages and smooth muscle cells in atherosclerotic plaques. In endothelial dysfunction, elevated YKL-40 levels seem to be involved in cell migration, reorganization, and tissue remodeling in response to endothelial damage. Therefore, YKL-40 may play a role in multiple pathogenic processes related to inflammation, extracellular tissue remodeling, fibrosis, and the metastatic and angiogenic invasiveness of many solid tumors.

The MSD Human YKL-40 assay is available on 96-well 4-spot plates. This datasheet outlines the performance of the assay.

**Assay Sensitivity**

The lower limit of detection (LLOD) is a calculated concentration based on a signal 2.5 standard deviations above the background (zero calibrator blank).

**Typical Standard Curve**

The following standard curve is an example of the wide dynamic range of the Human YKL-40 assay.
MSD Advantage

- **Multiplexing**: Multiple analytes can be measured in one well using typical sample volumes of 25 µL or less without compromising speed or performance.
- **Large dynamic range**: Linear range of up to five logs enables the measurement of native levels of biomarkers in normal and diseased samples without multiple dilutions.
- **Minimal background**: The stimulation mechanism (electricity) is decoupled from the response (light signal), minimizing matrix interference.
- **Simple protocols**: Only labels bound near the electrode surface are excited, enabling assays with fewer washes.
- **Flexibility**: Labels are stable, non-radioactive, and conveniently conjugated to biological molecules.
- **High sensitivity and precision**: Multiple rounds of label excitation and emission enhance light levels and improve sensitivity.

For a complete list of products, please visit our website at [www.mesoscale.com](http://www.mesoscale.com).

References