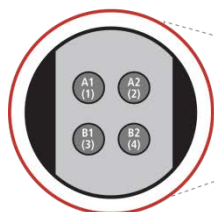


MSD® Human Factor VII Kit

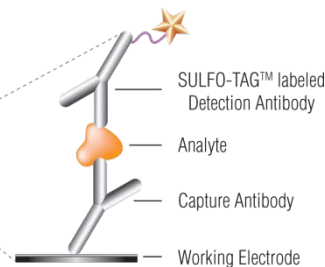
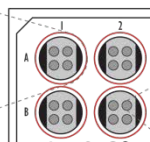
For quantitative determination in human serum and plasma



1. **Factor VII**
2. *BSA blocked*
3. *BSA blocked*
4. *BSA blocked*



MSD MULTI-SPOT®
96-Well 4-Spot Plate

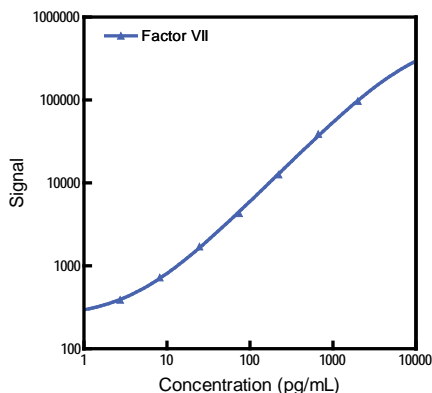


Coagulation factor VII (50 kDa) is a vitamin-K dependent plasma glycoprotein produced by the liver and is one of many proteins that are essential for blood clotting in the coagulation cascade.^{1,2} Blood clotting in response to a vascular injury is initiated by factor VII in conjunction with the cell surface receptor tissue factor. Tissue factor is normally sequestered out of the luminal area of the vessel but becomes exposed to the bloodstream and circulating factor VII concurrent with vessel injury. Tissue factor binds to factor VII and promotes its proteolytic activation to factor VIIa by a number of different plasma proteases including thrombin (factor IIa), factors Xa, IXa, XIIa, or the factor VIIa-tissue factor complex itself.^{3,4} Once activated, the factor VIIa/tissue factor complex catalyzes the proteolytic conversion and activation of factor IX to factor IXa and factor X to factor Xa. This serves as the initiation of the extrinsic pathway of blood coagulation.

Elevated factor VII activity is an independent risk factor for fatal outcomes of coronary heart disease in men. Factor VII deficiency leads to a variety of bleeding disorders. The assay is available on 96-well 4-spot plates. Representative data from the assay is presented below.

Assay Sensitivity

The following standard curve illustrates the dynamic range of the Human Factor VII assay.



| Factor VII | |
|--------------------|-----------|
| LLOD Range (pg/mL) | 3.44–4.32 |

The lower limit of detection (LLOD) is a calculated concentration based on a signal 2.5 standard deviations above the background (zero calibrator blank). The LL0D shown above was calculated based on 2 runs.

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

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Oncology
Toxicology
Vascular

Catalog Numbers

| Human Factor VII Kit | |
|----------------------|-----------|
| Kit Size | Catalog # |
| 1 plate | K1510KD-1 |
| 5 plates | K1510KD-2 |
| 25 plates | K1510KD-4 |

Ordering Information

MSD Customer Service
Phone: 1-240-314-2795
Fax: 1-301-990-2776
Email: CustomerService@mesoscale.com

Scientific Support

Phone: 1-240-314-2798
Fax: 1-240-632-2219
Email: ScientificSupport@mesoscale.com

Company Address

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MSD Cardiac Assays

References

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