



### Factor H EIA

For **Research Use Only** in the United States. Not for use in diagnostic procedures.

#### Background

The MicroVue Factor H EIA is an enzyme immunoassay for the quantitative measurement of complement Factor H. Factor H is a single-chain glycoprotein with a molecular weight of 150 KD. Its concentration in normal human plasma/serum is approximately 516 µg/mL.<sup>1</sup> Factor H regulates complement activation on both the cellular surface and in fluid-phase and plays roles in both the Alternative and Classical pathways.

Factor H regulates formation and function of C3 convertase enzyme in the Alternative pathway. It binds to C3b and inhibits C3 convertase formation, dissociates assembled C3 convertase, accelerates Factor I-mediated cleavage of C3b to C3bi, and hinders C5 binding to the C3b subcomponent of both the Alternative and Classical Pathways.

Factor H also regulates the spontaneous fluid-phase activation of the alternative complement pathway by C3b-like forms of C3 that continuously arise in plasma and serum. Therefore, when concentrations of Factor H fall below normal levels, there is rapid fluid-phase activation and consumption of complement components both *in vivo* and *in vitro*.

Complement Factor H has been implicated in the research of many autoimmune diseases. Studies have included using Factor H as a serum biomarker of multiple sclerosis disease state, as a therapy for renal diseases associated with Factor H abnormalities, as a camouflage to tumor cells for protection against the host immune system, and in clarification surrounding disease states such as atypical Hemolytic-Uremic Syndrome (aHUS), age-related macular degeneration, and dense deposit disease.<sup>1</sup>

#### Format

- 96-well microplate with reagents sufficient to test 40 samples in duplicate
- Controls included: Normal, Low

- Incubate 30±1 minutes at 25°C
- Pipette 100 µL Stop Solution
- Read OD at 450 nm
- Data reduction: 4-parameter curve

#### References

<sup>1</sup>Ferriera, V. et al. "Complement Control Protein Factor H: The Good, the Bad, and the Inadequate." *Mol. Immunol.* 2010 August;47(13): 2187-2197.

#### Protocol

- Add 300 µL of Wash Solution
- Aspirate liquid from each well
- Pipette 100 µL Specimen Diluent, Standards, Controls, and specimens into assay wells
- Incubate 60±1 minutes at 25°C
- Wash 4 times with Wash Solution
- Pipette 100 µL Conjugate
- Incubate 60±1 minutes at 25°C
- Wash 4 times with Wash Solution
- Pipette 100 µL Substrate Solution

#### Assay Performance

- Method:** Direct Capture
- Sample Volume:** 100 µL
- Samples:** Plasma diluted 1:5000  
Serum diluted 1:5000
- Limit of Detection:** 3.15 ng/mL
- Lower Limit of Quantification:** 4.64 ng/mL
- Precision:** Inter-Assay 4.1 to 5.2  
Intra-Assay 9.0 to 9.7
- Assay Time:** < 3 hours

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MicroVue Factor H EIA – Cat. #A039 | Cat. #A040 (CE)

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Also available:

Factor H-Depleted Serum – Cat. #A523

MoAbs: Anti-human Factor H #1 – Cat. #A229

Anti-human Factor H #2 – Cat. #A254

Anti-human Factor H #3 – Cat. #A255

Factor H Protein – Cat. #A410

PABs: Anti-human Factor H – Cat. #A312

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