Complement

Technical
Data Sheet

Monoclonal Antibodies:
Murine Anti-Human Factor H (#2)

For Research Use Only. Not for use in Diagnostic Procedures.

Background
Factor H is a fluid phase complement regulatory protein consisting of a single peptide chain of 20 short consensus repeat segments or CCP's with a molecular weight of approximately 155 KD.[1] Factor H regulates the alternative pathway of the complement system by modifying activity of the "feedback loop." It does this in three ways. First, it is a co-factor for the serine protease Factor I, which cleaves C3b to iC3b. iC3b has no hemolytic or amplification function, but may be bound by complement receptors. Second, Factor H prevents the formation of and accelerates the disassociation of the alternative pathway C3 convertase, C3bBb from cell surfaces. Finally, Factor H binds to polyanions on host cell surfaces and tissue matrices, such as basement membranes, blocking deposition of C3b. This later activity is leveraged by many pathogens as a mode of complement evasion.[2]

Recent studies have linked Factor H to hemolytic uremia syndrome (HUS),[3] age-related macular degeneration (AMD),[4] and membrano-proliferative glomerulonephritis. Factor H may also be elevated in certain cancers, including bladder cancer, potentially as a protective measure used by tumor cells to evade complement attack.

Production and Characterization
All of Quidel's monoclonal antibodies to complement antigens were prepared using intact complement proteins and are purified from mouse ascites fluid via protein A affinity chromatography. The prepared monoclonal antibodies are buffer exchanged in Borate Buffered Saline containing 0.02% NaN_3.

The specificity of the Factor H (#2) (clone 90X) monoclonal antibody was established via a series of immunoassays utilizing highly purified human Factor H and Factor H CCP fragments.[4] Firstly, the antibody was shown by ELISA to bind to purified Factor H immobilized in microtiter wells. Secondly, free (unbound) Factor H and human serum but not other complement proteins were shown (via inhibition EIA) to inhibit the binding of this antibody to immobilized Factor H. Via Western Blot this antibody was shown to bind specifically to SCR-1 on both Factor H and Factor H Like Protein 1.[5]

Applications
Applications of this antibody have been described in the literature and are provided below as a reference. As with all data of this type and because specific techniques differ from lab to lab, the provided information should be used as a guideline only.

EIA[5,7]	RIA	WB[6]	IHC	FACS
> 1 µg/ml	N/T	>1:100	N/T	>1:100

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Specifications

Catalog Number:	A254
Concentration:	1.0-1.2 mg/ml
Purity:	≥ 95% by SDS PAGE
Volume/Vial:	100 µl
Storage:	
≤ 30 Days	2-8˚C
> 30 Days	≤ –20˚C
Buffer:	Phosphate Buffered Saline (pH 7.0 ± 0.2)
Isotype:	IgG1k

Species Cross Reactivity:[7] Cynomolgous monkeys and baboons.

References

1 Pangburn, M.K. Differences between the binding sites of the complement regulatory proteins DAF, CR1 and Factor H on C3 Convertases. J Immunol 136:6 (1986).

2 Kraiczy, P., Würrzner, R. Complement escape of human pathogenic bacteria by acquisition of complement regulators. Mol Immunol 43:21-44 (2006).

3 Atkinson, J.P. and Timothy, H.J. Goodship Complement factor H and the hemolytic uremic syndrome. JEM Vol. 204, No. 6, June 11, 2007 1245–1248.

4 Sivaprasad, S. and Chong, N.V. The complement system and age related macular degeneration. Eye (2006), 1–6.

5 Jokiranta, T.S., et al. Analysis of the recognition mechanism of the alternative pathway of complement by monoclonal anti-factor H antibodies: evidence for multiple interactions between H and surface bound C3b. FEBS Ltr 393(2-3):297-302 (1996).

6 Junnikkala, S., et al. Exceptional resistance of Human H2 Glioblastoma Cells to Complement Mediated Killing by Expression and Utilization of Factor H and Factor H Like Protein I. J Immunol 164 (2000).

7 On file at Quidel Corporation.

Ordering and Additional Information

To learn more about this and other Quidel products visit our website www.quidel.com or contact Technical Services at 1.800.524.6318

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Anti-Human Factor H	A312