



Monoclonal Antibodies: Murine Anti-Human Factor H (#1)

**For Research Use Only.
Not For Use in Diagnostic Procedures.**

Specifications

Catalog Number:	A229
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:	Borate Buffered Saline (pH 8.4 ± 0.2)
Isotype:	IgG1k

Background¹

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. FH 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, FH 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.

Recent studies have linked Factor H to hemolytic uremia syndrome (HUS)², age-related macular degeneration (AMD)³, 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 attack⁴.



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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% NaN₃.

The specificity of the Factor H (#1) monoclonal antibody was established via a series of immunoassays utilizing highly purified human Factor H and Factor H CCP fragments (a kind gift of Dr. Michael Pangburn). The antibody was shown by ELISA to bind to purified Factor H immobilized in microtiter wells. Separately, 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. Similarly, using radiolabeled Factor H, this antibody was shown to immuno-precipitate Factor H using protein A-bearing bacteria.

Studies using highly pure Factor H fragments and Factor H like protein have shown that the epitope for this antibody seems to be isolated to intact Factor H only, and is not present on Factor H like proteins or on individual CCP's. (Data on File at Quidel)

Applications

Quidel's complement monoclonals are tested for titer in ELISA using immobilized complement proteins or fragments at the time of QC release. Mid, point titers are reported on lot-specific C of A. For details of these experiments please contact Quidel Technical Support. Additional applications of these antibodies 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. (Data on File at Quidel.)

EIA	RIA	WB ⁴	IHC ⁵	FACS ⁶
> 1:1000	>1:1000	>1:100	1:500	>1:100

Species Cross Reactivity

Species cross reactivity was determined by measuring the ability of whole animal complement to inhibit binding of the antibody to solid phase purified human Factor H in an ELISA inhibition assay versus a human control material. This antibody cross-reacted with sera from horse, cynomolgous monkeys and baboons. Other sera not listed have not yet been tested or were not reactive. (Data on File at Quidel.)

Related Products

A410:	Human Factor H
A254:	Monoclonal anti Factor H (#2)
A255:	Monoclonal anti Factor H (#3)
A312:	Goat Anti human Factor H

Ordering and Further Technical Information

To place an order or for technical assistance in the United States, please call (800) 524-6318, Monday through Friday, between 8:00 AM and 5:00 PM, Pacific Time. For customers with existing accounts, orders may also be placed by fax at (408) 616-4311 anytime. Outside the U.S. and Canada, please contact your local Quidel distributor.

Information about Quidel, our affiliated distributors and our products is available online at www.quidel.com.

References

- Kraiczky P, R. Würzner "Complement escape of human pathogenic bacteria by acquisition of complement regulators" **Mol Immunol** 43:21-44 (2006)
- S Sivaprasad and NV Chong "The complement system and age related macular degeneration" **Eye** (2006), 1-6
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- Hageman et al "A common haplotype in complement regulatory gene Factor H predisposes individuals to age related macular degeneration" **PNAS** 102:7227-7232 (2005).
- Dave et al "Dual roles of PSPC a surface protein of streptococcus pneumoniae in binding human secretory IgA and Factor H" **J Immunol** 173:471-477 (2004).