

Catalog No. LF-MA0187

MONOCLONAL ANTIBODY



## Anti- Complement C4 (beta-chain) (35A12)

**Background :** The complement system is a part of the larger immune system and three biochemical pathways are present: the classical complement pathway, the alternative pathway, and the mannose-binding lectin pathway.

Complement component C4 is an essential component of humoral immune response. In its activated form, C4b becomes a subunit of the C3 convertase, which is an enzymatic complex that activates C3 of the classical and lectin complement activation pathways. The classical pathway is initiated by the activation of the C1-complex (C1q, C1r and C1s) by C1q's binding to antibody-antigen. The C1-complex now binds to and splits C2 and C4 producing C2a and C4b. C4b and C2a bind to form C3-convertase. Production of C3-convertase leads to cleavage of C3 into C3a and C3b and C3b joins with the C3 convertase to make C5 convertase.

Human C4 is the most polymorphic protein of the complement system. Complement C4 exists as two isotypes, C4A (acidic) and C4B (basic). Although the sequence identity is very high, they have different hemolytic activities, covalent affinities to antigens and immune complexes, and serological reactivities. Each C4 contains beta chain, alpha chain, C4a anaphyltoxin, C4b, and gamma chain.

C4-deficient mice shows incomplete clearance of microbial attack and C4-deficiency in human shows increased autoimmune diseases.

**Immunogen :** Protein purified from Human plasma

**Host :** Mouse

**Clone number :** 35A12

**Isotype :** IgG1, k

**Size :** 100  $\mu$ l

**Compositon :** Hepes with 0.15M NaCl, 0.01% BSA, 0.03% sodium azide, and 50% glycerol

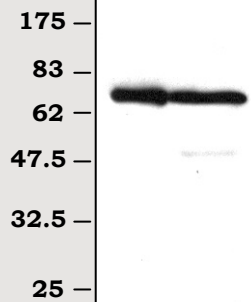
**Positive control :** Human plasma

**Storage :** Store for 1 year at  $-20^{\circ}\text{C}$  from date of shipment

### Species cross reactivity

Human +	Mouse NT	Rat NT
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M.W.(kDa) 1 2



**Immunoblot Analysis** of human plasma protein

Lane 1 : complement C4 protein isolated from human plasma

Lane 2 : Human plasma (0.5  $\mu$ l)

### Applications :

ELISA

Western blotting(1: 2,000)

### Background Reference :

1) Blanchong C.A. et al., 2001, Int Immunopharmacol. 1:365-392

2) Holers V.M., 2000, Immunopharmacol. 49:125-131

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