

## Product datasheet for **AM26192PU-N**

### Complement C4A (C4A) (alpha 2 chain) Mouse Monoclonal Antibody [Clone ID: 12D11]

#### Product data:

Product Type:	Primary Antibodies
Clone Name:	12D11
Applications:	ELISA, IHC, WB
Recommended Dilution:	<b>Immunohistochemistry on Frozen Sections:</b> The typical starting working dilution is 1/50. <b>Western blot:</b> The typical starting working dilution is 1/50. <b>Immunoassay.</b>
Reactivity:	Bovine, Human, Monkey, Porcine
Host:	Mouse
Isotype:	IgG1
Clonality:	Monoclonal
Specificity:	The monoclonal antibody 12D11 (also known as clone M4d3) recognizes an epitope on the alpha 2 chain of Human C4d. The antibody 12D11 recognizes C4, C4b and C4d.
Formulation:	PBS State: Purified State: Liquid 0.2 µm filtered Ig fraction Stabilizer: 0.1% BSA Preservative: 0.02% Sodium Azide
Concentration:	lot specific
Purification:	Protein G Chromatography
Conjugation:	Unconjugated
Storage:	Store undiluted at 2-8°C.
Stability:	Shelf life: one year from despatch.
Gene Name:	complement component 4A (Rodgers blood group)
Database Link:	<a href="#">Entrez Gene 720 Human</a> <a href="#">POC0L4</a>



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**Background:**

Complement factor C4 (MW 41 kDa), formerly known as Gg protein, consists of an alpha-, beta- and gamma-chain. The classical pathway of complement and the mannose binding lectin (MBL) activation pathway converge at C4. Activated C1, MASP-1 and MASP-2 cleave C4 resulting in the formation of C4a and C4b. The latter can be cleaved by factor I resulting in C4c and C4d, in which step all functional sites are lost.

The C4d activation fragment of C4 is an excellent marker for classical complement pathway and MBL pathway activation. The thioester formed between the side chains of Cys1010 and Gln1013 within the C4d region of the  $\alpha$ -chain mediates covalent attachment to the target surface bearing activated forms of C1s or MASP.

Furthermore, C4d is highly homologous to C3d with over 35% shared amino acid sequence. In a number of diseases such as rheumatoid arthritis (RA), hereditary angioedema (HAE), systemic lupus erythematosus (SLE) and chronic urticaria with hypercomplementemia levels of C4d are significantly elevated in serum or plasma. C4d levels may also be elevated in plasma from patients with a variety of humoral autoimmune diseases in which complement activation is known to occur. Deposition of C4d in peritubular capillaries has been shown to be a sensitive marker for antibody-mediated (humoral) rejection in renal transplant biopsies.

**Synonyms:**

Complement component 4, CPAMD2, CPAMD3, Acidic complement C4, Basic complement C4