

Rat C3 protein Antibodies and conjugates

Cat # C312-S	Rabbit Anti-Rat C3 protein antiserum	SIZE: 100 ul
Cat # C312-A	Rabbit Anti- Rat C3 protein IgG, aff pure	SIZE: 100 ug
Cat # C312-BTN	Rabbit Anti- Rat C3 protein IgG-biotin conjugate	SIZE: 50 ug

Human Complement component 3, C3 (alternative names include acylation-stimulating protein (ASP) C3 is encoded by gene located 19p13.3-p13.2. Because C3, C4, and C5 are strikingly similar suggesting a common evolutionary origin. C3 is an acute phase reactant. Synthesis of C3, a glycoprotein, is induced during acute inflammation. The liver is the main site of synthesis, although small amounts are also produced by activated monocytes and macrophages. A single chain precursor (pro-C3) of approximately 200 kD is found intracellularly; the cDNA shows that it comprises 1,663 amino acids. This is processed by proteolytic cleavage into alpha (~115 kda) and beta subunits (~75 kda) which in the mature protein are linked by disulfide bonds. Pro-C3 contains a signal peptide of 22 amino acid residues, the beta chain (645 residues) and the alpha chain (992 residues). The 2 chains are joined by 4 arginine residues that are not present in the mature protein. Human C3 has 79% identity to mouse C3 at the nucleotide level and 77% at the amino acid level.

Human C3 concentration in normal human serum is ~ 1.25 mg/ml. Classical and alternative activation pathways of complement converge at C3 step. Activation via either pathway can result in assembly of C3-cleaving enzymes (C3 convertases) on target surfaces. Both C3 convertases cleave the C3 a-chain at peptide bond 77 resulting in production of C3a (M.W. 9083) and C3b fragments (M.W. 180,000). Released C3a peptide is one of the three complement anaphylatoxins. The nascent C3b fragment can form a covalent ester bond with target surface. This covalent attachment of C3b to target acceptors is required for continuation of complement activation.

C3 nephritic factor, an IgG antibody against complement components, is demonstrable in some cases of partial lipodystrophy. C3-deficient homozygotes developed mesangiocapillary glomerulonephritis.

Source of Antigen and Antibodies

Antigen	Highly purified Rat serum C3 protein
Ab Host/type	Rabbit, Polyclonal unpurified antiserum # C312-S and purified over antigen-agarose column (# C312-A)
2-Ab	Goat Anti-Rabbit IgG-HRP conjugate Cat # 20320 (AP, biotin, FITC conjugates also available)
-ve	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Cat# C312-BTN, Biotin-conjugate

Purified anti-Rat C3 IgG antibody was coupled to Biotin using Biotinamidocaproate N-Hydroxysuccinimide Ester (BAC) at F/P ratio ~10-20:1. The antibody is supplied in PBS, pH 7.4, 0.2%

BSA and 0.05% azide in either **lyophilized** (0.05 mg) or **liquid** form (50 ug/50 ul). Reconstitute powder in PBS in 0.1 ml to prepare 0.5 mg/ml solution. Store at -20oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:5,000-1:30,000 ELISA, 1:2K-1:10K for western.

Form & Storage of Antibodies

Antiserum (unpurified)

100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K using Chemiluminescence technique)..

ELISA (1:10-50K; using 50-100 ng control antigen/well).

References: de Bruijn MHL (1985) PNAS 82, 708-712; Alper CA (1970) J. Clin. Invest. 49, 975-1985; Ajees AA (2006) Nature 444, 221-225; Botto M (1992) PNAS 89, 1957-1961; McLean RH (1980) Humn, Hered. 30, 149-154; Muller-Eberhard HJ (1958) Adv. Immunol. 8, 1-80;

*This product is for In vitro research use only.

Mouse, Rat and Dog C3 ELISA and anti-ovalbumin IgG, IgM ELISA

C3, C3a, C3b purified proteins

Adipsin and Factor D proteins and antibodies

C312-S, C312-A, C312-BTN 70430A