

Polyclonal Antisera:

Anti-Human C7

For **Research Use Only**. Not for use in diagnostic procedures

Background

C7 is a glycoprotein which is present in normal human serum/plasma at approximately 55 µg/mL. Primarily synthesized in the liver, C7 is a single-chain protein with a molecular weight of approximately 95 kD. This complement protein is key for the continued formation of the SC5b-9 complex after C5b binds to C6.

With activation of the classical or alternative pathways of the complement system, C5 convertase cleaves the C5 chain into C5a and C5b. C5b remains bound to the convertase and will combine with C6 to form a C5b,6 complex. This complex normally interacts with C7 to form C5b,6,7 that becomes partially embedded in the target cell outer membrane.

If C7 is limited, the C5b,6 will dissociate from the C5 convertase. This complex is relatively stable in free-solution and can be purified. This fluid-phase C5b,6 complex can combine with C7 in the presence of biological or artificial membranes to form a membrane bound C5b,6,7 complex, which can subsequently bind C8 and multiple C9 molecules completing the terminal pathway. The C5b,6,7,8,9, or C5b-9 complex, is also known as the Membrane Attack Complex (MAC), which causes irreversible damage to the target cell membrane.

Characterization

Highly purified human C7 was isolated from normal serum and used to immunize goats. The anti-human C7 polyclonal antisera was tested against normal human plasma by double immunodiffusion, one-dimensional immunoelectrophoresis, quantitative radial immunodiffusion, and quantitative rocket immunoelectrophoresis. The antiserum was determined to be monospecific for C7 at varying concentrations.

Applications

Applications of the C7 polyclonal antisera have been evaluated by various research facilities, and include, Western Blot,¹ Radial Immunodiffusion,² Immunofluorescence³ and Immunoblot.⁴

Specifications

- Volume/vial: 2.0 mL
- Storage: 2°C to 8°C* (≤ 30 days)
- Form: Whole Antiserum
- Preservative: ≤ 0.1% Sodium Azide

Species Cross Reactivity:

- Baboon, Guinea Pig, Cat, Rabbit, Hamster, Horse

*For long-term storage (> 30 days), aliquot and store at ≤ -20°C. Avoid repeated freeze-thaw.

References

¹Yasojima, K., et al. "Up-Regulated Production and Activation of the Complement System in Alzheimer's Disease Brain." *Am. J. of Pathology* (1999): 927-936.

²Kolb, W., et al. "Neoantigens of the Membrane Attack Complex of Human Complement." *Proceedings of the Nat. Acad. of Sciences* (1975): 1687-1689.

³Meri, S., et al. "Activation of the

Alternative Pathway of Complement by Monoclonal κ Light Chains in Membranoproliferative Glomerulonephritis." *J. of Experimental Medicine* (1992): 939-950.

⁴Langelegen, H., et al. "The Endothelium is an Extrahepatic Site of Synthesis of the Seventh Component of the Complement System." *Clinical and Experimental Immunology* (2000): 69-76.

Anti-Human C7 – Cat. #A308

Also available:

MoAb: Anti-human C7 – Cat. # A221

Biotinylated MoAb: Anti-human C7 – Cat. #A707

C7 Depleted Serum – Cat. #A503

C7 Protein – Cat. #A405