

Product Sheet



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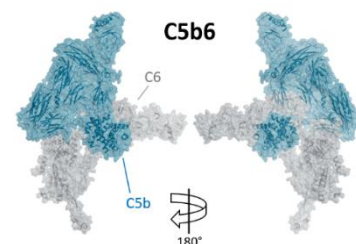
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Complement C5b6 complex

Catalog no.: Q127c
Clone name: IDC5b6-1G8

Product: Single-domain antibody directed against complement C5b6 complex
Target: The complement system plays a crucial role in immune defense. It is activated via three pathways: the classical pathway (CP), the lectin pathway (LP), and the alternative pathway (AP), resulting in opsonisation, chemoattraction of immune cells and target cell lysis.^{1,2} Cell lysis is mediated by the formation of pores in the targeted cell membrane in a process called the terminal pathway. Cleavage of complement C5 into C5a and C5b by C5 convertases initiates the terminal pathway. C5b interacts with complement proteins C6, C7, C8, and multiple copies of C9, forming the membrane attack complex (MAC or C5b-9).^{1,2} C5b6 (285 kDa, 3 chains) is an intermediate in the formation of the MAC. In the absence of C7, C5b6 is released into the fluid phase from the C5 convertases. If C7 is encountered then, pore formation is again initiated, causing by-stander lysis, which can be a significant source of pathogenicity.³



C5b (blue) and C6 (grey) proteins of complement protein complex C5b6. PDB 4A5W.³

Source: Recombinant monoclonal single-domain antibody (Lama glama), purified from *S. cerevisiae* using affinity chromatography. Immunization with and phage-display selection on recombinant protein using total elution.⁴

Specificity: Human C5b6.

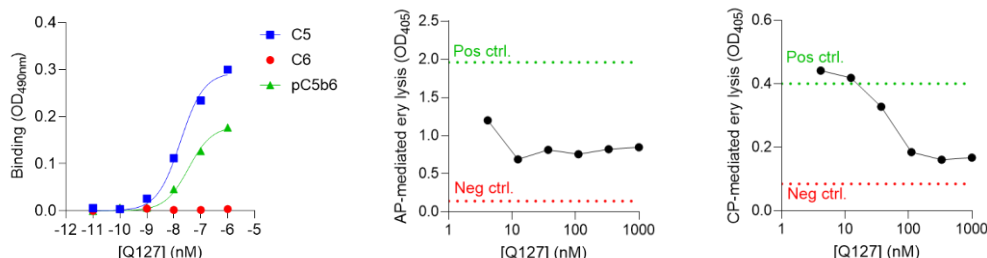
Formulation: 0.2 µm filtered solution in PBS. The products are equipped with a C-terminal C-Direct tag with an unpaired cysteine for directional conjugation.

Mol. Weight: 15.4 kDa
Ext. Coeff. (ε): 15388 M⁻¹ cm⁻¹
A₂₈₀ at 1g/L: 1.5

Storage: Shipped on blue ice. Store at 4°C or -20°C (aliquots). Addition of 0.02% sodium azide is optional.

Applications: ELISA

Examples:



Left: Binding of Q127c to recombinant C5, C6, and pC5b6 in ELISA. Middle: AP-mediated hemolysis of rabbit erythrocytes in 10% human serum shows that addition of Q127 blocks AP activation. Right: CP-mediated hemolysis of antibody opsonized sheep erythrocytes in 2.5% human serum and sAB shows that Q127 blocks CP activation.

References:

- 1 Merle et al., (2015) Front Immunol. 6:262
- 2 Merle et al., (2015b) Front Immunol. 6:257
- 3 Hadders et al., (2012) Cell Reports. Volume 1, Issue 3, 200 - 207
- 4 E. M. Struijff, 'Nanobodies targeting complement Detecting and blocking complement activation', Utrecht University, (2023)