

Product Sheet



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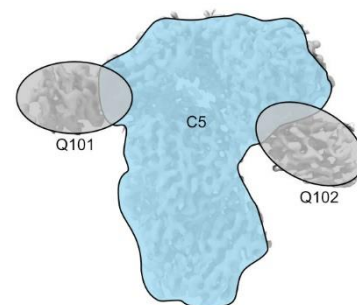
www.qvquality.com
KvK: 30274082
VAT: 8215.17.168
NL88 RABO0153194936

Complement component C5

Catalogue no.: Q101c
Clone name: UNbC5-1, ID-1G8

Product: VHH directed against complement protein C5

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 opsonization, chemoattraction of immune cells and target cell lysis.^{1,2} Complement component C5, a 190 kDa protein consisting of two disulfide linked chains (alpha 115 kDa and beta 75 kDa), is a blood circulating protein with a key role in the complement system.^{1,2} During complement activation, native C5 molecules are cleaved in C5a (8 kDa) and C5b (181 kDa) by C5 convertases (C4b2bC3b and C3bBbC3b) on target surfaces. While C5a is released in the supernatant where it functions as a chemoattractant upon binding to its G protein-coupled receptor C5aR1 (CD88)³, C5b interacts with complement proteins C6, C7, C8, and multiple copies of C9, forming the membrane attack complex (MAC).^{1,2} C5 acts as a therapeutic target for inhibition of complement activation.⁵



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

Specificity: Human C5. MG7 (macroglobulin 7) domain, competes with the binding of Eculizumab.⁴

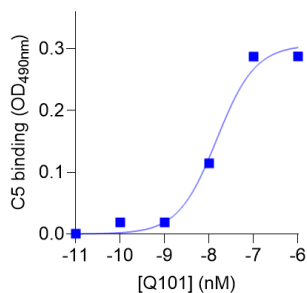
Formulation: 0.2 µm filtered solution in PBS.

Mol. Weight: 15.4 kDa
Ext. Coeff. (ε): 23170
A₂₈₀ at 1g/L: 1.5

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

Applications: ELISA, inhibition of complement activity by preventing cleavage.⁴

Examples:



Binding of Q101c to recombinant C5 in ELISA.

References:

- 1 Merle et al., (2015) *Front Immunol.* 6:262
- 2 Merle et al., (2015b) *Front Immunol.* 6:257
- 3 Monk et al., (2007) *Br J Pharmacol.* 152(4): 429-448
- 4 Struijff et al., (2023) *J Biol Chem.* 299(8): 104956
- 5 Patriquin and Kuo, (2019) *Transfus Med Rev.* 33(4): 256-265