Product Sheet

QUALITY IN ANTIBODIES

Yalelaan 1
3584 CL Utrecht
The Netherlands
+31 30 253 3421

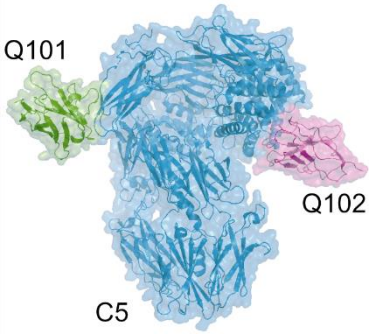
www.qvquality.com
KvK: 30274082
VAT: 8215.17.168
NL88 RABO0153194936

Complement component C5

Catalogue no.: Q102c
Clone name: UNbC5-2, ID-1B3

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, chemo-attraction 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 is 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. C5d domain. Competes with the binding of RaCI.[4]

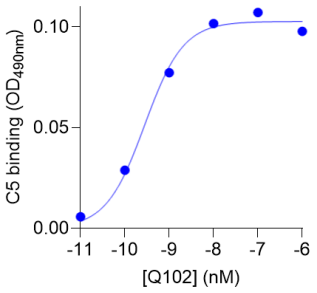
Formulation: 0.2 µm filtered solution in PBS. The products are equiped with a C-terminal C-Direct tag with an unpaired cysteine for directional conjugation.

Mol. Weight: 14.7 kDa
Ext. Coeff. (ε): 18575
A_{280} at 1g/L: 1.3

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

Applications: ELISA[4], inhibits complement activity[4]

Examples:



Binding of Q102c 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 Struijf et al., (2023) J Biol Chem. 299(8): 104956
5 Patriquin and Kuo, (2019) Transfus Med Rev. 33(4): 256-265