

# Product Sheet



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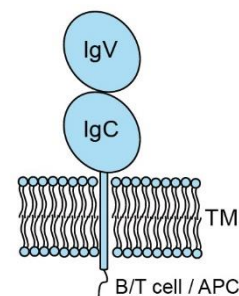
Yalelaan 1  
3584 CL Utrecht  
The Netherlands  
+31 30 253 3421

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

## CTLA-4 counter-receptor B7.1 (CD80)

**Catalogue no.:** Q98c  
**Clone name:** WC8-2F8

**Product:** VHH directed against CD80  
**Target:** CD80, also called CTLA-4 counter-receptor B7., BB1 or B7 (UniProtKB P33681) is a costimulatory molecule essential for T-lymphocyte activation. It is a type I membrane protein from the immunoglobulin protein family with immunoglobulin-like extracellular domains consisting of a constant and variable subdomain. It is closely related to CD86 and both serve as a ligand for CD28 or CTLA-4. Whereas T-cell proliferation and cytokine production is induced by interaction with CD28, interaction of CD80 with CTLA-4 actually inhibits T-cell activation. CD80 is expressed on activated T-cells and activated B-cells but predominantly on antigen presenting cells like dendritic cells and macrophages. Surface expression of CD80 in macrophages is a marker for M1 polarization, a classically activated macrophage involved in promoting inflammation.<sup>1-3</sup>



**Source:** Recombinant monoclonal VHH (Llama glama), purified from *S.cerevisiae*. Immunization with cells. Phage-display selection on recombinant CD80 using total elution.

**Specificity:** Human CD80.

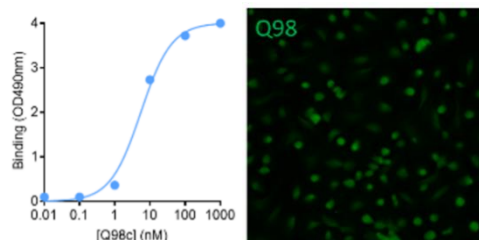
**Formulation:** 0.2 µm filtered solution in PBS. The products are equipped with a C-terminal C-Direct tag with an unpaired cysteine for directional conjugation.

**Mol. Weight:** 15.8 kDa  
**Ext. Coeff. (ε):** 28545 M<sup>-1</sup> cm<sup>-1</sup>  
**A<sub>280</sub> at 1g/L:** 1.8

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

**Applications:** ELISA, IF

### Examples:



Left: Binding of Q98 to immobilized recombinant CD80 in ELISA. Bound VHH were detected with rabbit-anti-VHH (QE19), followed by donkey-anti-rabbitHRP and OPD as substrate. Right: Binding of Q98 to human M1 polarized macrophages. Bound VHH were detected with anti-VHH and Alexa488-conjugated secondary antibodies.

### References:

- 1 Greenwald, RJ. et al., (2015) Annu Rev Immunol, 23:515-48
- 2 Peach, RJ. et al.,(1995) J Biol Chem, 270(36):21181-7
- 3 Bertani, FR. et al. (2017) Sci Rep, 7(1):8965