

# Product Sheet



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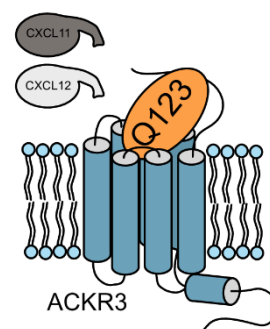
Yalelaan 1  
3584 CL Utrecht  
The Netherlands  
+31 30 253 3421

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

## Atypical chemokine receptor 3 (ACKR3/CXCR7)

**Catalogue no.:** Q123c  
**Clone name:** 2D3 / VUN701

**Product:** VHH directed against ACKR3/CXCR7  
**Target:** The atypical chemokine receptor 3 (ACKR3/CXCR7, UniProtKB P25106) is a 7-transmembrane spanning class A (rhodopsin-like) G protein-coupled receptor (GPCR). Binding of the chemokines CXCL12/SDF1 $\alpha$  and CXCL11 activates biased signaling via  $\beta$ -arrestin.<sup>1</sup> ACKR3 is expressed in several immune cells and is important for cell migration. Furthermore, it is expressed in the brain, kidneys, heart, and lungs, and plays a role during development.<sup>2</sup> Besides this, ACKR3 is overexpressed in multiple cancer types, including breast-, lung-, and brain cancer, where it is involved in cancer progression and metastasis occurrence.<sup>3</sup> ACKR3 is also involved in several autoimmune diseases and cardiovascular diseases.<sup>4,5</sup>



**Source:** Recombinant monoclonal VHH (Llama glama), purified from *e.coli* using immobilized metal ion chromatography. Immunization with ACKR3-encoding plasmid. DNA. Phage-display selection on captured ACKR3-containing lipoparticles with total elution.<sup>6</sup>

**Specificity:** Q123 binds to the extracellular part of human ACKR3 and competes for CXCL11 and CXCL12 binding.<sup>1</sup>

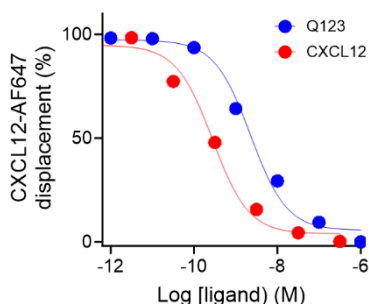
**Formulation:** 0.2  $\mu$ m filtered solution in PBS. The products are equipped with a C-terminal FLAG-His tag.

**Mol. Weight:** 15445.7 kDa  
**Ext. Coeff. ( $\epsilon$ ):** 20065 M<sup>-1</sup> cm<sup>-1</sup>  
**A<sub>280</sub> at 1 g/L:** 1.3

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

**Applications:** ELISA, IF, antagonism

### Examples:



Binding of Q123 to ACKR3, shown by displacement of CXCL12-AF647 from NanoLuc-ACKR3 in immobilized membranes.

### References:

- 1 Kleist et al. (2022) Science 377, 222-228.
- 2 Quinn et al (2018) Cytokine 109, 17-23.
- 3 Neves et al (2019) Mol Pharmacol 96, 819-825.
- 4 García-Cuesta et al (2019) Front. Endocrinol 10 585.
- 5 Duval et al (2022) Front Endocrinol 13 906586.
- 6 Song et al (2021) EBioMedicine 68 103412.