Product Sheet

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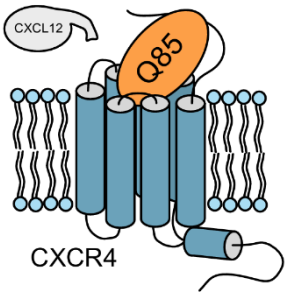
CXC chemokine receptor type 4 (CXCR4) / fusin

Catalogue no.: Q85c
Clone name: QX4-E11 / VUN401



Product: VHH directed against CXCR4
Target: The CXC chemokine receptor type 4 (CXCR4 / fusin, UniProtKB P61073) is a 7-transmembrane spanning class A (rhodopsin-like) G protein-coupled receptor (GPCR). Binding of the chemokine CXCL12/SDF1α activates heterotrimeric Gαi, promoting cytoskeleton rearrangements and migration of e.g. immune cells to sites of inflammation. CXCR4 is important during embryonic development and regulates the homing and retention of hematopoietic stem cells in bone marrow. Upregulation of CXCR4 and CXCL12 contributes to the progression and metastasis of many tumor types. In addition, CXCR4 acts as a co-receptor for entry of HIV-1 and HIV-2 into cells.[1-5]

Source: Recombinant monoclonal VHH (Llama glama), purified from S.cerevisiae using affinity chromatography. Immunization with CXCR4-containing nanodiscs and cells. Phage-display selection on captured CXCR4-containing lipoarticles with total elution.[5]

Specificity: Q84 and Q85 bind to the extracellular part of human CXCR4 and compete for CXCL12 binding.[5,6]

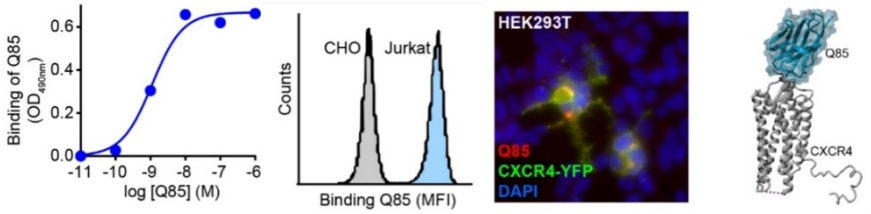
Formulation: 0.2 µm filtered solution in PBS. The products are equiped with a C-terminal C-Direct tag with an unpaired cysteine for directional conjugation.

Mol. Weight: 14.4 kDa
Ext. Coeff. (ε): 24535 M^{-1} cm^{-1}
A_{280} at 1g/L: 1.7

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

Applications: ELISA, IF, antagonism

Examples:



Binding of Q85 to CXCR4 in immobilized lipoparticles in ELISA, to CXCR4 on Jurkat cells in FACS or to CXCR4-YFP in HEK293T cells in IF. Docking of a predicted model of Q85 to CXCR4 (PDB ID 3ODU).[6]

References:

1 Bleul et al. (1996) Nature 382, 829-833
2 Gonzalo et al. (2000) J Immunol 165, 499-508
3 Domanska et al. (2004) Eur J Cancer 49, 219-230
4 Deng et al. (1996) Nature, 381, 661-666
5 Jahnichen et al. (2010) PNAS, 107, 20565-20570
6 van Hout et al. (2018) Biochem Pharmacol, 158, 402-40127