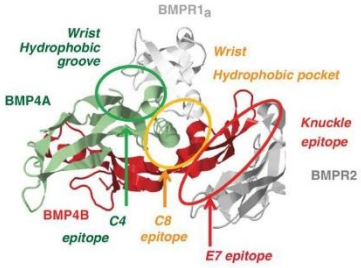
Bone Morphogenetic Protein 2/4 (BMP2/4)

Catalogue no.: **Q36**
Clone name: **16C8-16C8**

Product: **VHH directed against Bone Morphogenetic Protein 2 and 4 (BMP2/4)**

Target:

Bone Morphogenetic Proteins (BMPs) are TGF-β-like secreted signaling molecules that play important roles in tissue homeostasis and diseases, such as cancer.[1] Although different, BMP2 (UniProtKB P12643) and BMP4 (UniProtKB P12644) originate from the same gene and show >80% sequence homology.[2] Both BMP2 and BMP4 preferentially bind to the type I BMP receptors, BMPR1A (Alk3) and BMPR1B (Alk6), but can also signal through ActRI (Alk2).[3]



Structure of BMP4A and B and the putative epitope of Q36 (C8, yellow), which prevents binding of BMP4 to BMPR1$_a$.[4]

Source:

Recombinant bivalent VHH (*Llama glama*), purified from *S.cerevisiae* using affinity chromatography.
Immunization with recombinant BMP4.[4] Phage-display selection on immobilized BMP4 with total elution.[4]

Specificity:

Human BMP2 and BMP4. Q36 binds to the 'wrist hydrophobic groove' on BMP4a, hereby preventing binding of BMP4 to its receptor BMPR1$_a$.[4,5] Q35 and Q36 bind non-overlapping epitopes.

Formulation:

0.2 µm filtered solution in PBS.

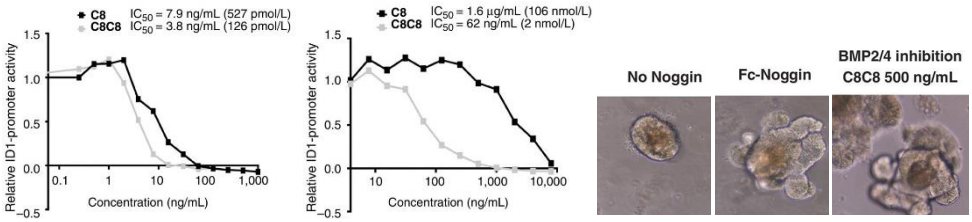
Storage:

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

Applications:

ELISA, Inhibition of signaling

Examples:



Inhibition of BMP2- and 4-mediated activation of C2C12 cells by Q36 (C8C8) and Q36-medated formation of intestinal organoids similar to those formed by treatment with BMP inhibitor Noggin.[4]

Products:

Cat. No.	Target	Tag	Label
Q36	BMP2,4	Tagless	No label
Q36c	BMP2,4	C-direct	No label
Q36c-lab	BMP2,4	C-direct	Biotin / NOTA / HiLyte488 / IRDye800CW

References:

1 Hogan, BL., (1996) Genes Dev. 10:1580-1594
2 McCauley and Bronner-Fraser, (2004) Evol Dev. 6:411-422
3 Miyazono et al., (2005) Cytokine Growth Factor Rev. 16:251-263
4 Calpe et al., (2015) Mol Cancer Ther 14:2527-40
5 Calpe et al., (2016) MAbs 8:678-688