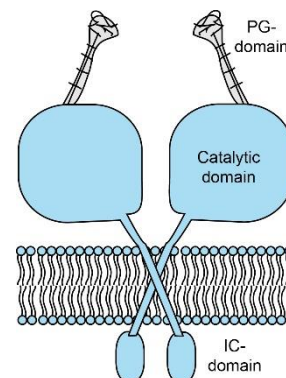


Carbonic Anhydrase IX (CAIX) / CA9

Catalogue no.: Q25-Q30
Clone name: 1B9, 1C5, 1D8, 1E4
Product: VHH directed against Carbonic Anhydrase IX (CAIX) / CA9

Target: The Carbonic Anhydrase IX (CAIX), UniProtKB [Q16790](#), isoform IX of the zinc enzyme carbonic anhydrase (α -CA family), is a single membrane spanning protein that functions as a dimer in pH regulation via the reversible hydration of carbon dioxide.¹ CAIX has a relatively large extracellular domain (377 aa, consisting of a proteoglycan-like (PG) domain and catalytic domain) and small C-terminal intracellular (IC) domain (24 aa).² Its expression is under the control of hypoxia-inducible factor 1 α (HIF1 α)¹, causes tumor acidification and is therefore used as one of the markers of hypoxia in tumors.³⁻⁵



Source: Recombinant monoclonal VHH (*Llama glama*), purified from *S.cerevisiae* using affinity chromatography. Immunization with HeLa cells grown under hypoxia.⁴ Phage-display selection on captured recombinant CAIX with total elution.⁴

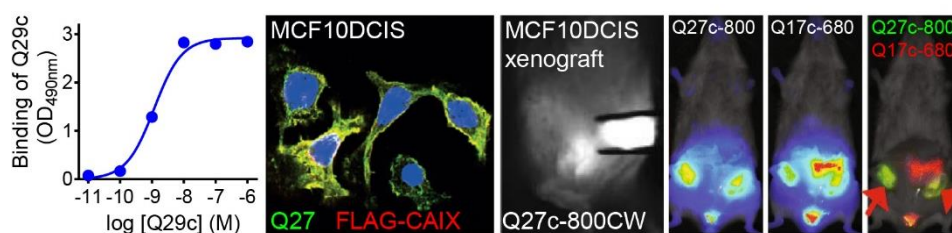
Specificity: Human CAIX.

Formulation: 0.2 μ m 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, IF, *in vivo* imaging

Examples:



Binding of Q27 (B9, green) to FLAG-CAIX (red) in MCF10-DCIS cells in IF.⁴ Intra-operative detection of CAIX in MCF10-DCIS xenograft in mice using Q27^{IRDye800CW}.⁴ Dual-spectral *in vivo* imaging of MCF10-DCIS xenografts (red arrows) in mice using CAIX-targeting Q27^{IRDye800CW} and HER2-targeting Q17^{IRDye680RD}.⁵

Products:

Cat. No.	Target	Tag	Label
Q25-Q30	CAIX	Tagless	No label
Q25-Q30c	CAIX	C-direct	No label
Q25-Q30c-lab	CAIX	C-direct	Biotin / NOTA / HiLyte488 / IRDye800CW

References:

- 1 De Simone et al. (2010) Biochem Biophys Acta. 1804, 404-409
- 2 Alterio et al. (2009) PNAS. 106, 16233-16238
- 3 Bao et al. (2012) PLoS One. 7, e50860. doi: 10.1371/journal.pone.0050860
- 4 van Brussel et al. (2016) Mol Imaging Biol. 18, 535-544
- 5 Kijanka et al. (2016) EJNMMI Res. 6, 14, doi: 10.1186/s13550-016-0166-y