

# Product Sheet



**QVQ**

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## Carbonic Anhydrase IX (CAIX) / CA9

**Catalogue no.:** Q29c

**Clone name:** 1D8

**Product:** VHH directed against CAIX

**Target:** The Carbonic Anhydrase IX (CAIX), UniProtKB Q16790, isoform IX of the zinc enzyme carbonic anhydrase ( $\alpha$ -CA family), is a single membrane spanning protein that functions as a dimer in pH regulation via the reversible hydration of carbon dioxide. 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). Its expression is under the control of hypoxia-inducible factor 1 $\alpha$  (HIF1 $\alpha$ ), causes tumor acidification and is therefore used as one of the markers of hypoxia in tumors.<sup>1-5</sup>

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

**Specificity:** Human CAIX.<sup>4</sup>

**Formulation:** 0.2  $\mu$ m filtered solution in PBS.

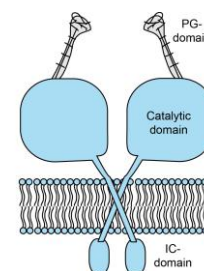
**Mol. Weight:** 14.8 kDa

**Ext. Coeff. ( $\epsilon$ ):** 31525

**A<sub>280</sub> at 1g/L:** 2.1

**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



### 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