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## A010-25 anti-SERCA2 phospho-Ser38 antibody 20µl

**Background:** SERCA2 belongs to the P-type family of ATPases (Toyofuku et al., 1994) and transports  $\text{Ca}^{2+}$  from the cytoplasm into the sarcoplasmic reticulum or endoplasmic reticulum of a wide variety of cells. A number of groups have reported Ser-38 phosphorylation of SERCA2 by CaMKII, with an accompanied substantial increase in ATPase activity (Xu et al., 1993; Hawkins et al., 1994). However, the control of  $\text{Ca}^{2+}$ -pump function by direct phosphorylation has not been observed by other investigators (Odermatt et al., 1996; Reddy et al., 1996; Rodriguez et al., 2004). This antibody, described by Rodriguez et al. (2004), may help to resolve the controversy.

**Description:** Lyophilised polyclonal anti-serum containing IgG antibody specific for Ser-38 phosphorylated forms of SERCA2 (Rodriguez et al., 2004). Standard pack of 20µl is sufficient for 100ml Western blotting at a working dilution of 1:5000.

**Immunogen:** Synthetic peptide ( $\text{K}_{31}\text{LKERWGS(PO3H2)NEL}_{41}$ ) corresponding to amino acids surrounding the phosphorylated serine residue at position 38 of SERCA2, conjugated to KLH.

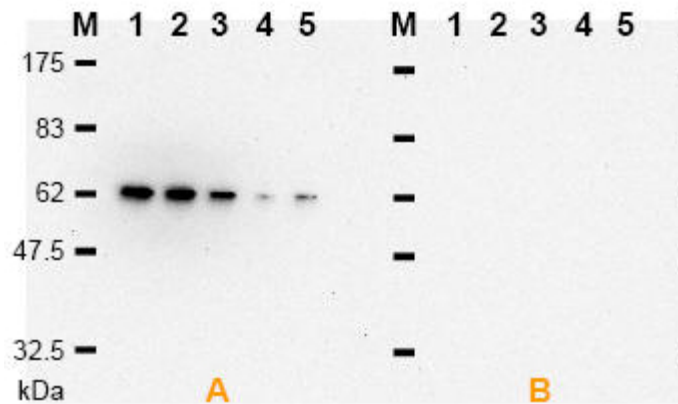
**Specificity and Species Cross Reactivity:** The antibody recognises the phospho-Ser38 epitope within a peptide, which is part of a positive control protein since Ser-38 has yet to be shown to be phosphorylated in canine cardiac SR samples (Rodriguez et al., 2004). Epitope sequence exists in SERCA2 from all mammalian species

**Applications:** ELISA, Western blot 1:5000 dilution.

**Storage:** Store antibody desiccated at 4C when dry, and frozen (-20C or -80C) in small aliquots when reconstituted with 20µl deionised water.

### Epitope sequence alignment SERCA (31-41)

Epitope	KLKERWGSNEL
Human	KLKERWGSNEL
Cat	KLKERWGSNEL
Cow	KLKERWGSNEL
Dog	KLKERWGSNEL
Horse	KLKERWGSNEL
Mouse	KLKERWGSNEL
Pig	KLKERWGSNEL
Rabbit	KLKERWGSNEL
Rat	KLKERWGSNEL
Chick	KLKEK $\square$ WGSNEL



**Figure 1: Detection of phospho-Ser38 epitope** Phospho-Ser38 epitope peptide was conjugated to a scaffold protein ((I27)<sub>5</sub>) as described in Rodriguez et al. (2004). Peptide-(I27)<sub>5</sub> protein (various loading 10-2.5µg) was electrophoresed through 12% SDS-PAGE gels and transferred to PVDF membrane. Phospho-Ser38 was detected using 1:5000 dilution of anti-SERCA2 phospho-Ser38 antibody (A010-25), with peroxidase based ECL-detection (panel A). 1µM epitope peptide (P010-25) inhibited specific interactions completely (panel B).

**references:**

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