SERCA2 (pSer38) pAb serum

Quality Control Certificate of Analysis
Catalogue No.:A010-25AP
Unit Size: 50 µl
Lot No: 0611-02

Background: SERCA2 belongs to the P-type family of ATPases (Xu *et al*., 1993; Toyofuku *et al*., 1994; Hawkins *et al*., 1994; Osada *et al*., 1998; Netticadan *et al*., 1999; Netticadan *et al*., 2000). Controversy still surrounds the phosphorylation status of Ser-38 and its physiological implication. Some groups have reported that Ser-38 of SERCA2 is phosphorylated by CaMKII, which apparently leads to a substantial increase in ATPase activity (Xu *et al*., 1993; Hawkins *et al*., 1994). However, the control of Ca^{2+} pump function by direct phosphorylation has not been observed by all investigators (Odermatt *et al*., 1996; Reddy *et al*., 1996; Rodriguez *et al*., 2004). Independent attempts to confirm SERCA2 phosphorylation at Ser-38 have failed to confirm the stimulation of Ca^{2+} pump function upon treatment with CaMKII, which suggests that Ser-38 phosphorylation of SERCA2 is not a significant regulatory feature of cardiac Ca^{2+} homeostasis. This antibody, described by Rodriguez *et al*. (2004), may help to resolve the controversy, as it recognises the Ser-38 phospho-epitope

Description: Lyophilised **Rabbit** polyclonal affinity purified antibody (A010-25AP) containing IgG antibody specific for Ser-38 phosphorylated forms of SERCA2 (Rodriguez et al., 2004)

Immunogen: Synthetic peptide (K_{31}LKERWGS(PO_3H_2)NEL_{41}) corresponding to amino acids surrounding the phosphorylated serine residue at position 38 of SERCA2, conjugated to KLH.

Antibody Isotype: IgG.

Antibody Purity: Protein A Affinity Purified

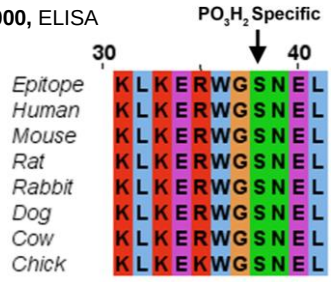
Specificity: The antibody recognises the Phospho Ser-38 epitope within a peptide, which is part of a positive control protein since Ser-38 has yet to be shown to be phosphorylated in canine cardiac SR samples (Rodriguez et al., 2004)

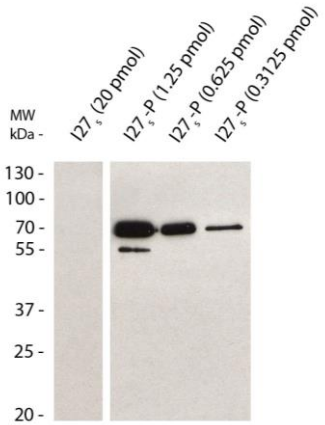
Species Cross Reactivity: Epitope sequence exists in SERCA2 from all mammalian species

Vial Constituents: Lyophilised A010-25AP purified antibody (50 µl) in 0.1M Tris-citrate pH 7.4 with 20%v/v stabiliser solution.

Storage Instructions: Lyophilised antibody is stable at 4°C when stored with desiccant. Reconstitute lyophilised powder in 50 µl of 18 MΩ H_2O, aliquot and store frozen at -80°C for 1 year. Avoid freeze - thaw cycles.

Tested Applications: **WB 1:1000,** ELISA





A010-25AP (1:1000)
1 µl in 1 ml of Tris buffer + 5% milk powder 16 hours at 4°C

Secondary antibody = Goat anti Rabbit HRP
Chemiluminescent detection

Lane 1: 20 pmol of I27s
Lane 2: 1.25 pmol of I27s conjugated to P010-25 phospho peptide
Lane 3: 0.625 pmol of I27s conjugated to P010-25 phospho peptide
Lane 4: 0.3125 pmol of I27s conjugated to P010-25 phospho peptide

WB using 1:1000 SERCA2 Phospho Ser-38 Ab (A010-25AP) against SERCA2 Phospho Peptide conjugated to I27(s) and I27(s) alone. 10% SDS-PAGE gel. PVDF membrane

Related Products: SERCA2 Phospho Ser-38 epitope peptide (P010-25). SERCA2 Phospho Ser-38 positive control (C010-25). SERCA2a Antibody (A010-20), SERCA1 Y/IF4 Antibody (A010-21AP), SERCA1 B/4H3 Antibody (A-10-21AP)

Background References:

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2. Netticadan, T., Temsah, R., Osada, M., and Dhalla, N. S. (1999): *Am J Physiol* **277**, C384-91.
3. Netticadan, T., Temsah, R. M., Kawabata, K., and Dhalla, N.S. (2000): *Circ Res* **86**, 596-605.
4. Odermatt, A., Kurzydlowski, K., and MacLennan, D. H. (1996):
5. Osada, M., Netticadan, T., Tamura, K., and Dhalla, N. S.(1998): *Am J Physiol* **274**, H2025-34.
6. Reddy, L. G., Jones, L. R., Pace, R. C., and Stokes, D. L.(1996): *J Biol Chem* **271**, 14964-70.
7. Rodriguez, P., Jackson, W. A., and Colyer, J. (2004): *J BiolChem* **279**, 17111-9.
8. Toyofuku, T., Curotto Kurzydlowski, K., Narayanan, N., andMacLennan, D. H. (1994): *J Biol Chem* **269**, 26492-6.
9. Xu, A., Hawkins, C., and Narayanan, N. (1993): *J Biol Chem***268**, 8394-7.*J Biol Chem* **271**, 14206-13.
10. Colyer, J., & Wang J.H. (1991) *J. Biol. Chem.* 266, 17486-17493