

Ryanodine Receptor 2 (RYR2) (pSer2814) pAb serum

Quality Control Certificate of Analysis

Catalogue No.: A010-31

Unit Size: 50µl

Lot No.: 642113

Background: The ryanodine receptor (RyR2) is a Ca²⁺ channel of cardiac muscle that plays a central role in EC coupling. The binding of Ca²⁺ to RyR2 opens the channel and Ca²⁺ stored in the SR moves through the channel into the cytosol to initiate muscle contraction (Bers, 2002). CaMKII, was able to phosphorylate Ser-2814 of RYR2 (Wehrens et al., 2004) enhancing Ca²⁺- sensitivity and increasing open probability. Excessive phosphorylation of Ser-2814 leads to atrial fibrillation (Dobrer and wehsens, 2010), arrhythmias and sudden death (Van Oort et al, 2010)

Description: Lyophilised **Rabbit** polyclonal IgG antibody (A010-31) specific to RyR2 Phospho Ser-2814

Immunogen: Synthetic peptide (TSQVS(PO₃H₂)VDAAH₂₈₁₉) corresponding to amino acids surrounding the phosphorylated serine residue at position 2814 of RyR2 (human) conjugated to KLH.

Antibody Isotype: IgG.

Specificity: Recognises Ser-2814 phosphorylated RyR2 exclusively, and will not react with dephosphorylated RyR2 or RyR2 phosphorylated at other sites.

Species Cross Reactivity: Dog, mouse, human: despite minor differences in sequence, this antibody interacts with antigen based on the human and mouse sequence

Vial Constituents: Lyophilised serum A010-31 pAb (50 µl)

Storage Instructions: Lyophilised antibody is stable at 4°C when stored with desiccant. Reconstitute lyophilised powder in 50 µl of 18 MΩ H₂O, aliquot and store frozen at -80°C for 1 year. Avoid freeze - thaw cycles.

Tested Applications: **WB 1:2000;** not yet tested in other applications, therefore, optimal dilutions/concentrations should be determined by the user. Ab is also effective in ELISA and IHC Microscopy.

Epitope	PO ₃ H ₂ Specific										
	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820
Human	Q	T	S	V	S	V	D	A	A	H	G
Mouse	Q	T	S	V	S	I	D	A	A	H	G
Rat	Q	T	S	V	S	I	D	A	A	H	G
Rabbit	Q	T	S	V	S	V	D	A	A	H	G
Dog	Q	T	S	V	S	V	D	A	A	H	G
Danio	L	S	S	Q	R	S	I	E	G	A	H

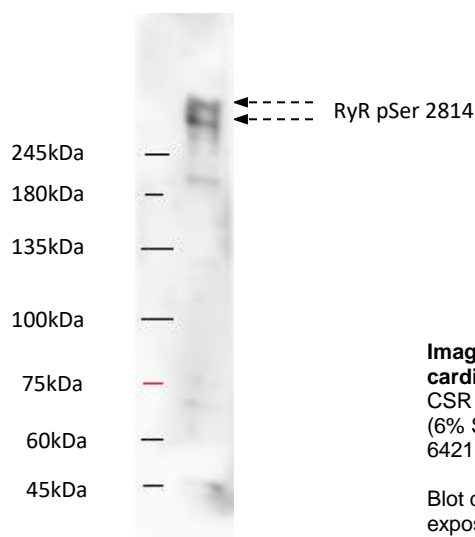


Image: Ser-2814 phospho-RYR2 detection in 4µg canine cardiac sarcoplasmic reticulum (CSR)
CSR samples (CaMKII phosphorylated) were electrophoresed (6% SDS-PAGE) and western blotted with A010-31 (lot: 642113) at dilution of 1:2000.

Blot developed on Syngene G:Box digital imaging system (15m exposure).

Related Products: A010-30AP RYR2 Phospho Ser-2808, A010-32AP RYR2 Phospho Ser-2030; A010-35AP RYR Dephospho Ser-2808

Background References:

- Bers, D. M. (2002) Nature 415, 198-205
- Chelu, M. G., Sarma, S., Sood, S., Wang, S., van Oort, R. J., Skapura, D.
- Wehrens, X. H., and Marks, A. R. (2004) Mayo Clin Proc 79, 1367-1371
- Dobrer, D. & Wehrens, X. HT (2010) Trends in Cardiovascular Medicine. 20, 30-34
- Van Oort, R.J et al. (2010) circulation. 122, 2669-79