

Ryanodine Receptor 2 (RYR2) (pSer2814) pAb IgG

Quality Control Certificate of Analysis

Catalogue No.: A010-31AP

Unit Size: 100 µg

Lot No.: A642224

Background: The ryanodine receptor (RyR2) is a Ca^{2+} channel of cardiac muscle that plays a central role in EC coupling. The binding of Ca^{2+} to RyR2 opens the channel and Ca^{2+} 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 Ca^{2+} - 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 (A010-31AP) 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.

Antibody Purity: Protein A affinity purified.

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

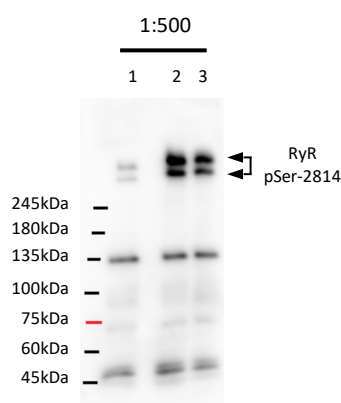
Species Cross Reactivity: Dog, mouse, human: despite minor differences in sequence, this antibody interacts with antigen based on the human and mouse sequence

Vial Constituents: Lyophilised affinity purified A010-31AP Ab (100 µg) in Tris neutralised Glycine pH 7.0 with stabilisers 20%v/v.

Storage Instructions: Lyophilised antibody is stable at 4°C when stored with desiccant. Reconstitute lyophilised powder in 100 µl of 18 MΩ H₂O, aliquot and store frozen at -80°C for 1 year. Avoid freeze - thaw cycles.

Tested Applications: **WB 1:500**; 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.

	PO ₃ H ₂ Specific											
	2810										2820	
Epitope	-	T	S	Q	V	S	V	D	A	A	H	-
Human	Q	T	S	Q	V	S	V	D	A	A	H	G
Mouse	Q	T	S	Q	V	S	I	D	A	A	H	G
Rat	Q	T	S	Q	V	S	I	D	A	A	H	G
Rabbit	Q	T	S	Q	V	S	V	D	A	A	H	G
Dog	Q	T	S	Q	V	S	V	D	A	A	H	G
Danio	L	S	S	Q	R	S	I	E	G	A	H	G



Detection of phosphorylated RyR pSer-2814 Species Using Badrilla antibody A010-31AP (Lot 642117)

Canine cardiac sarcoplasmic reticulum (5ug) was phosphorylated for 5 minutes in the presence of Calmodulin and ATP-γ-S; Ln 1: Control, minus ATP-γ-S and Calmodulin; Ln 2, 3: plus ATP-γ-S (0.2mM) and Calmodulin (0.04 mg/mL).

A010-31AP, Lot 642117 used at dilutions shown in image.

SDS PAGE on 6% Gels; Blot developed on Syngene G:Box digital imaging system (1m 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