

## Ryanodine Receptor 2 (RYR2) (pSer2814) pAb serum

### Quality Control Certificate of Analysis

Catalogue No.: A010-31AP

Unit Size: 100 µl

Lot No.: 0314-01

**Background:** The ryanodine receptor (RyR2) is a Ca<sup>2+</sup> channel of cardiac muscle that plays a central role in EC coupling. The binding of Ca<sup>2+</sup> to RyR2 opens the channel and Ca<sup>2+</sup> 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<sup>2+</sup>- 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

**Vial Constituents:** Lyophilised affinity purified A010-31AP Ab (100 µl) in 0.1M Tris-citrate pH 7.4 with 20%v/v stabiliser solution.

**Immunogen:** Synthetic peptide (TSQVS(PO<sub>3</sub>H<sub>2</sub>)VDAAH<sub>2819</sub>) corresponding to amino acids surrounding the phosphorylated serine residue at position 2814 of RyR2 (human) conjugated to KLH.

**Storage Instructions:** Lyophilised antibody is stable at 4°C when stored with desiccant. Reconstitute lyophilised powder in 100 µl of 18 MΩ H<sub>2</sub>O, aliquot and store frozen at -80°C for 1 year. Avoid freeze - thaw cycles.

**Antibody Isotype:** IgG.

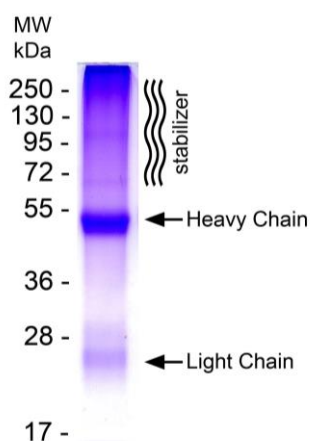
**Tested Applications:** **WB 1:2000**, Not yet tested in other applications, therefore, optimal dilutions/concentrations should be determined by the user. Unpurified Ab is also effective in ELISA and IHC Microscopy.

**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

Epitope	PO <sub>3</sub> H <sub>2</sub> Specific										
	2810	↓	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



12% SDS-PAGE gel showing 10 µg of A010-31AP.



**Ser-2814-phospho-RYR2 detection in canine cardiac SR**  
8ug SR in dephos (a), CaMKII phos (b), PKA phos (c) State. SDS-PAGE on 6% gel, blotted with A010-31AP lot: 0314-01, 1:500 dilution.

**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