

## SERCA1/2 mAb (clone Y/1F4)

### Quality Control Certificate of Analysis

Catalogue No.: A010-21AP

Unit Size: 50 µl

Lot No.: 642115

**Background:** SERCA1 is the Ca<sup>2+</sup>-pump (109kDa) located in the sarcoplasmic reticulum (SR) of fast-twitch skeletal muscle and SERCA2 is the Ca<sup>2+</sup>-pump located in the sarcoplasmic reticulum (SR) of cardiac, smooth and slow-twitch skeletal muscle. The enzyme transports 2 Ca<sup>2+</sup> ions from the cytoplasm into the SR using the hydrolysis of 1 molecule of ATP to power the reaction. This terminates muscle contraction and promotes muscle relaxation. Mutations in SERCA1 are associated with Brody disease; mutations in SERCA2 are associated with Darier disease and down regulation of SERCA2 is seen in heart failure (Hovnanian, 2007). The monoclonal antibody Y/1F4 was produced by immunizing mice with purified SERCA1: the antibody inhibits SERCA1 activity upon binding (Colyer et al., 1989). Antibody Y/1F4 recognises both SERCA1 and SERCA2.

**Description:** Affinity purified Mouse monoclonal antibody (A010-21AP) to SERCA isoforms 1 and 2.

**Immunogen:** Purified SERCA1 protein from rabbit skeletal muscle.

**Antibody Isotype:** IgG.

**Antibody Purity:** Protein A affinity purified.

**Specificity:** Antibody will detect SERCA1, SERCA2 and may detect SERCA3

**Species Cross Reactivity:** Tested on Rat tissue, but immunogenic peptide aligns with Mammal, Avian, Amphibian and Fish SERCA

#### Isoform Alignment

	510
Epitope	-VGNKMFVKGA-
SERCA1	AVGNKMFVKGAP
SERCA2	AM-SKMFVKGAP
SERCA3	GQGSKMFVKGAP

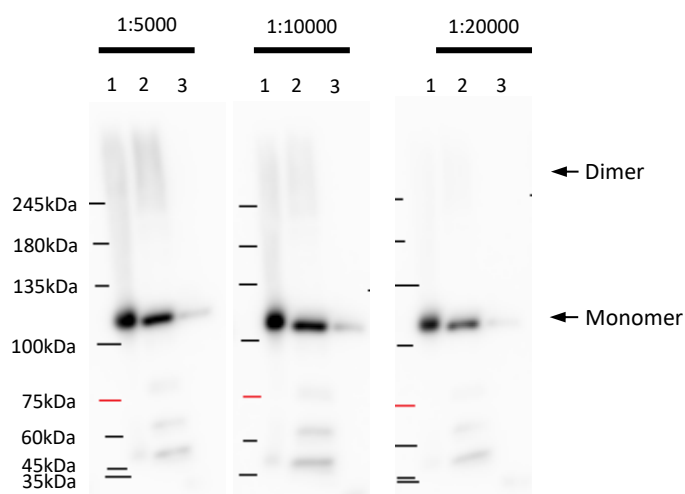
**Vial Constituents:** Lyophilised affinity purified A010-21AP Ab (50 µl) in 0.1M Tris-citrate pH 7.4 with 20%v/v stabiliser solution.

**Storage Instructions:** Lyophilised antibody is stable at 4°C when stored with desiccant. Reconstitute in 50 µl of 18 MΩ H<sub>2</sub>O, aliquot and store frozen at -80°C for 1 year. Avoid freeze - thaw cycles.

**Tested Applications:** **WB recommended 1:5000 dilution.** Not yet tested in other applications.

#### Species Alignment

	510
EPITOPE	VGNKMFVKGA
HUMAN	VGNKMFVKGA
MOUSE	VGNKMFVKGA
RAT	VGNKMFVKGA
RABBIT	VGNKMFVKGA
CHICKEN	VGNKMFVKGA
ZEBRA	VGNKMFVKGA
XENOPUS	VGNKMFVKGA



#### Image: Detection of SERCA Species Using anti-SERCA1/2 mAb (clone Y/1F4, A010-21AP, lot 642115)

Lane 1, Cardiac Sarcoplasmic Reticulum (CSR) 5µg; Lane 2, Adult rat ventricular myocytes, 5µg; Lane 3, Rat Ventricular Tissue, 5µg.

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SDS PAGE on 6% Gels; Blot developed on Syngene G:Box digital imaging system (30s exposure).

**Related Products:** SERCA2a Anti-Serum (A010-20), SERCA B/4H3 Antibody (A010-22AP)

#### References:

- J Colyer, A M Mata, A G Lee, and J M East (1989) Biochem J. 262, 439-447.
- Hovnanian, A. (2007) Subcell Biochem. 45, 337-63