

SERCA1/2 mAb (clone Y/1F4)

Quality Control Certificate of Analysis

Catalogue No.: A010-21AP

Unit Size: 50 µl

Lot No.: 0911-01

Background: SERCA1 is the Ca^{2+} -pump (109kDa) located in the sarcoplasmic reticulum (SR) of fast-twitch skeletal muscle and SERCA2 is the Ca^{2+} -pump located in the sarcoplasmic reticulum (SR) of cardiac, smooth and slow-twitch skeletal muscle. The enzyme transports 2 Ca^{2+} 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: Synthetic peptide (VGNKMFVKGA) corresponding to amino acids 508 - 517 of SERCA1, conjugated to keyhole limpet hemocyanin (KLH) by carbodiimide cross linkage.

Antibody Isotype: IgG.

Antibody Purity: Protein A affinity purified.

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

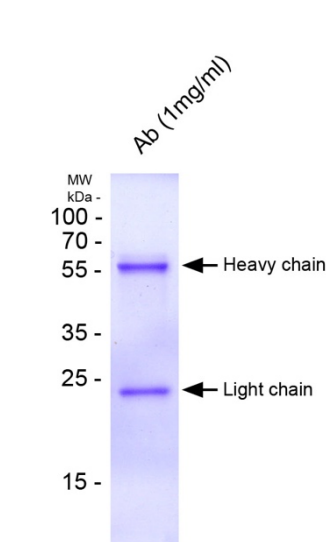
Species Cross Reactivity: Tested on Rat tissue, but immunogenic peptide aligns with Mammal, Avian, Amphibian and Fish SERCA

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

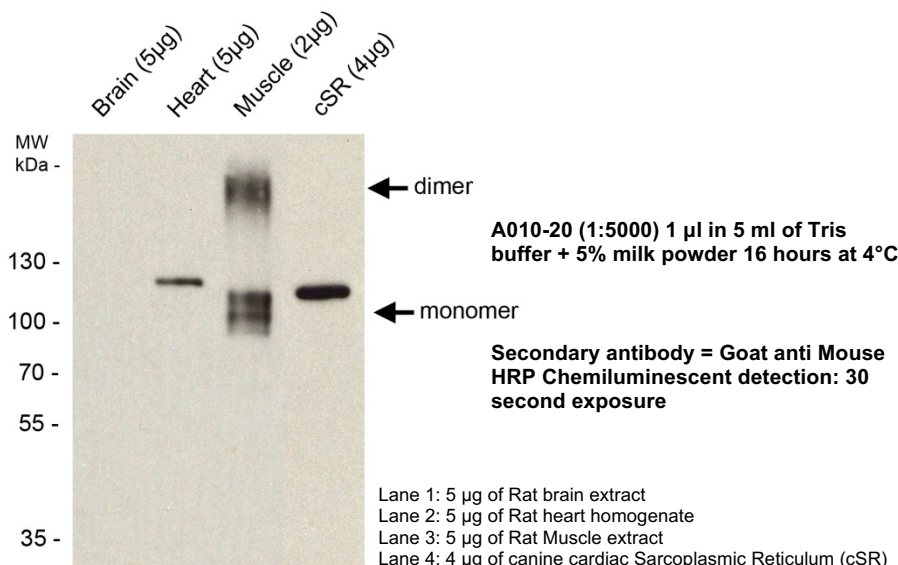
Storage Instructions: Lyophilised antibody is stable at 4°C when stored with desiccant. Reconstitute lyophilised powder in 50 µl of 18 MΩ H₂O, aliquot and store frozen at -80°C for 1 year. Avoid freeze - thaw cycles.

Tested Applications: WB 1:2000. Not yet tested in other applications.

		530	540
Epitope		VGNKMFVKGA	VGNKMFVKGA
Human		VGNKMFVKGA	VGNKMFVKGA
Mouse		VGNKMFVKGA	VGNKMFVKGA
Rat		VGNKMFVKGA	VGNKMFVKGA
Rabbit		VGNKMFVKGA	VGNKMFVKGA
Chicken		VGNKMFVKGA	VGNKMFVKGA
Zebra		VGNKMFVKGA	VGNKMFVKGA
Xenopus		VGNKMFVKGA	VGNKMFVKGA
		510	
Epitope	-	VGNKMFVKGA	-
SERCA1	A	VGNKMFVKGA	P
SERCA2	S	M-SKMFVKGA	P
SERCA3	G	QGS-KMFVKGA	P



12% SDS-PAGE gel showing 10 µl of A010-21AP



Western blot using 1:2000 SERCA1 Y/1F4 Ab (A010-21AP) against rat brain, heart and muscle tissue extracts and canine Sarcoplasmic Reticulum. anti-SERCA1 Y/1F4 recognises the 109 kDa (monomer & dimer) muscle isoform (SERCA1) and the 115 kDa cardiac isoform (SERCA2) 7.5 % gel PVDF membrane

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