

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 Ca²⁺-pump (109kDa) located in the sarcoplasmic reticulum (SR) of fast-twitch skeletal muscle and SERCA2 is the Ca²⁺-pump located in the sarcoplasmic reticulum (SR) of cardiac, smooth and slow-twitch skeletal muscle. The enzyme transports 2 Ca²⁺ 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

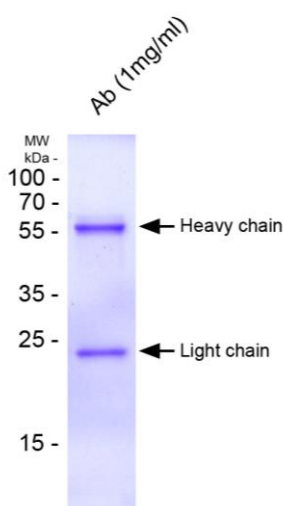
Vial Constituents: Lyophilised affinity purified A010-21AP Ab (50 µl) in 0.1M Tris-citrate pH 7.4 with 20%v/v stabiliser solution.

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.

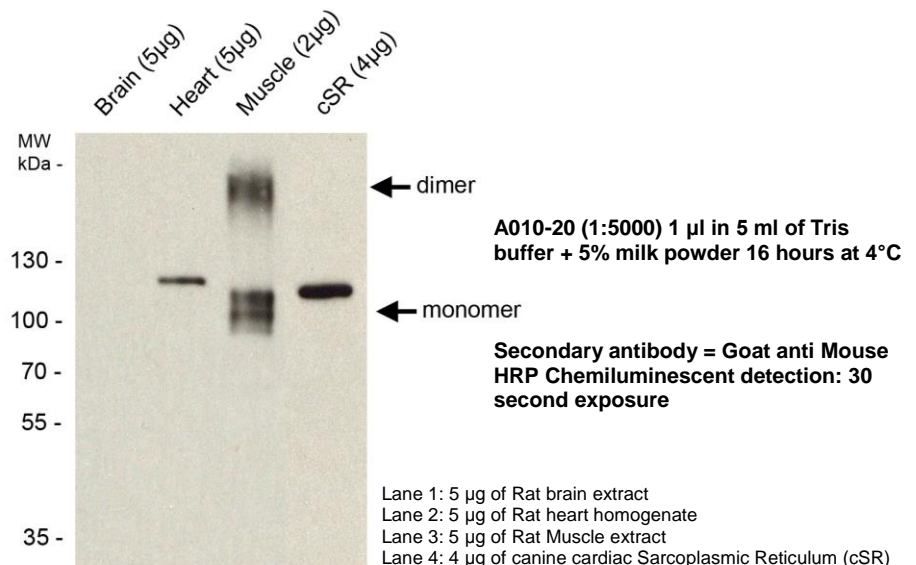
Tested Applications: WB 1:2000. Not yet tested in other applications.

Epitope	530	540								
Human	V	G	N	K	M	F	V	K	G	A
Human	V	G	N	K	M	F	V	K	G	A
Mouse	V	G	N	K	M	F	V	K	G	A
Rat	V	G	N	K	M	F	V	K	G	A
Rabbit	V	G	N	K	M	F	V	K	G	A
Chicken	V	G	N	K	M	F	V	K	G	A
Zebra	V	G	N	K	M	F	V	K	G	A
Xenopus	V	G	N	K	M	F	V	K	G	A

Epitope	510
SERCA1	A V G N K M F V K G A P
SERCA2	S M - S K M F V K G A P
SERCA3	G Q G S K M F V K G A 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