

PRODUCT INFORMATION

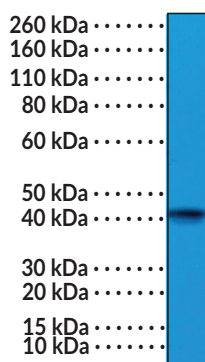


α -Cardiac Actin (N-Term) Rabbit Monoclonal Antibody (Clone RM257) Item No. 32211

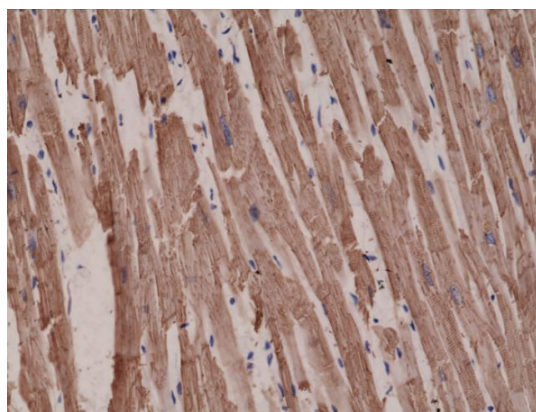
Overview and Properties

Contents:	This vial contains 100 μ l of protein A-affinity purified monoclonal antibody.
Synonyms:	ACTC1, Actin, alpha Cardiac Muscle 1
Immunogen:	Synthetic peptide corresponding to the N-terminal region of human α -cardiac actin
Cross Reactivity:	(+) Human and mouse α -cardiac actin
Species Reactivity:	(+) Human, mouse
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	\geq 1 year
Storage Buffer:	PBS, with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM257
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:1,000-1:2,000 for IHC and WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



WB of mouse heart tissue lysate using α -Cardiac Actin (N-Term) Rabbit Monoclonal Antibody (Clone RM257) at a dilution of 1:1,000.



Immunohistochemical staining of formalin-fixed, paraffin-embedded (FFPE) human heart tissue sections using α -Cardiac Actin (N-Term) Rabbit Monoclonal Antibody (Clone RM257) at a dilution of 1:1,000.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

α -Cardiac actin is one of the main actin isoforms found in adult cardiac muscle and the predominant actin in the embryonic heart.^{1,2} It is a globular protein that forms microfilaments at the Z-disc of sarcomeres and interacts with myosin to perform myofilament, and thus cardiac muscle, contractions.³ Knockout of *Actc1*, the gene encoding α -cardiac actin, is embryonic lethal in approximately half of mice and generally lethal within two weeks of birth for the other 50%.¹ Mutations in *ACTC1* are associated with atrial septal defects, familial hypertrophic cardiomyopathy, and idiopathic dilated cardiomyopathy.^{2,4} Cayman's α -Cardiac Actin (N-Term) Rabbit Monoclonal Antibody (Clone RM257) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

1. Kumar, A., Crawford, K., Close, L., *et al.* Rescue of cardiac α -actin-deficient mice by enteric smooth muscle γ -actin. *Proc. Natl. Acad. Sci. USA* **94**(9), 4406-4411 (1997).
2. Matsson, H., Eason, J., Bookwalter, C.S., *et al.* Alpha-cardiac actin mutations produce atrial septal defects. *Hum. Mol. Genet.* **17**(2), 256-265 (2008).
3. Sequeira, V., Nijenkamp, L.L.A.M., Regan, J.A., *et al.* The physiological role of cardiac cytoskeleton and its alterations in heart failure. *Biochim. Biophys. Acta* **1838**(2), 700-722 (2014).
4. Mogensen, J., Klausen, I.C., Pedersen, A.K., *et al.* α -cardiac actin is a novel disease gene in familial hypertrophic cardiomyopathy. *J. Clin. Invest.* **103**(10), R39-R43 (1999).

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