For Research Use Only

ACTN2 Polyclonal antibody

Catalog Number:14221-1-AP 17 Publications

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Basic Information

Catalog Number:
14221-1-AP

Size:
150ul , Concentration: 650 μg/ml by Nanodrop;

Source:
Rabbit

Isotype:
IgG

Immunogen Catalog Number:
AG5459

GenBank Accession Number:
BC051770

GeneID (NCBI):
88

Full Name:
actinin, alpha 2

Calculated MW:
104 kDa

Observed MW:
103 kDa

Purification Method:
Antigen affinity purification

Recommended Dilutions:
WB 1:5000-1:50000
IP 0.5-4.0 ug for IP and 1:500-1:2000 for WB
IHC 1:500-1:2000
IF 1:200-1:800

Applications

Tested Applications:
IF, IHC, IP, WB, ELISA

Cited Applications:
IF, IHC, WB

Species Specificity:
human, mouse, rat

Cited Species:
human, rat, mouse

Note-IHC: suggested antigen retrieval with TE buffer pH 9.0; (*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0

Positive Controls:

WB : mouse brain tissue, C2C12 cells, mouse lung tissue, mouse skeletal muscle tissue, mouse heart, mouse kidney, rat skeletal muscle

IP : HeLa cells,

IHC : mouse heart tissue, mouse skeletal muscle tissue

IF : mouse heart tissue, C2C12 cells, NIH/3T3 cells, Human iPSC derived cardiomyocyte

Background Information

Alpha actinin 2 (ACTN2) belongs to the alpha-actinin family and is expressed in both skeletal and cardiac muscles and functions to anchor myofibrillar actin thin filaments and titin to Z-discs (PMID: 30701273). ACTN2 is an actin-binding protein with multiple roles in different cell types. In nonmuscle cells, the cytoskeletal isoform is found along microfilament bundles and adherens-type junctions, where it is involved in binding actin to the membrane. In contrast, skeletal, cardiac, and smooth muscle isoforms are localized to the Z disc and analogous dense bodies, where they help anchor the myofibrillar actin filaments. Mutations in ACTN2 are associated with hypertrophic cardiomyopathy, as well as dilated cardiomyopathy and endocardial fibroelastosis (PMID: 20022194, 14567970).

Notable Publications

Author	Pubmed ID	Journal	Application
Xueling He	28969971	Prog Biophys Mol Biol	WB
Maike Schuldt	33148509	J Mol Cell Cardiol	IF
Qianqian Liang	36413948	Dev Cell	IF

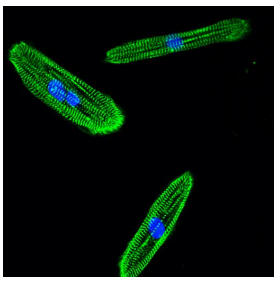
Storage

Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol pH 7.3.
Aliquoting is unnecessary for -20°C storage

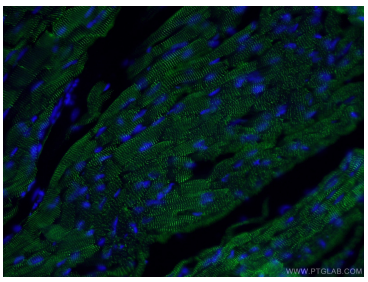
*** 20ul sizes contain 0.1% BSA

For technical support and original validation data for this product please contact:
T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free in USA), or 1(312) 455-8498 (outside USA)
E: proteintech@ptglab.com
W: ptglab.com

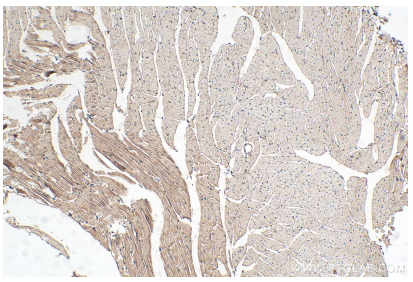
Selected Validation Data



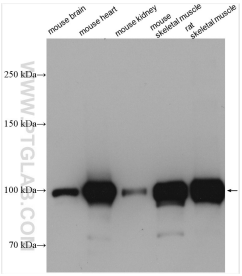
Human iPSC derived cardiomyocyte in 2D culture, with alpha actinin (14221-1-AP) and DAPI. Image courtesy of Chandan Kadur Nagaraju, Experimental Cardiology, KU Leuven, Belgium.



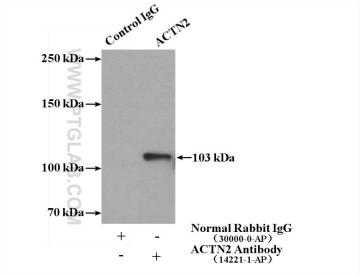
Immunofluorescent analysis of (4% PFA) fixed mouse heart tissue using 14221-1-AP (ACTN2 antibody) at dilution of 1:400 and Alexa Fluor 488-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L).



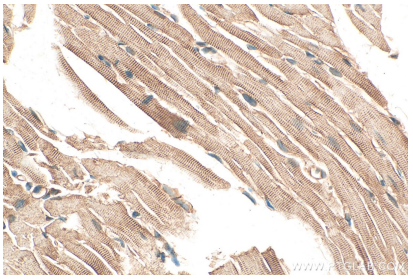
Immunohistochemical analysis of paraffin-embedded mouse heart tissue slide using 14221-1-AP (ACTN2 antibody) at dilution of 1:1000 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



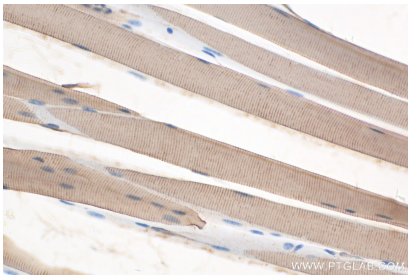
Various lysates were subjected to SDS PAGE followed by western blot with 14221-1-AP (ACTN2 antibody) at dilution of 1:30000 incubated at room temperature for 1.5 hours.



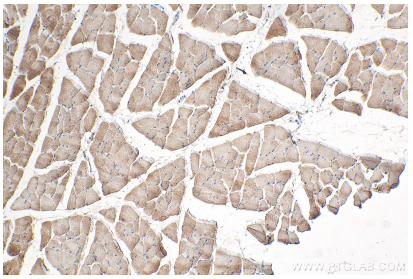
IP Result of anti-ACTN2 (IP:14221-1-AP, 4ug; Detection:14221-1-AP 1:1000) with HeLa cells lysate 1080ug.



Immunohistochemical analysis of paraffin-embedded mouse heart tissue slide using 14221-1-AP (ACTN2 antibody) at dilution of 1:1000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunohistochemical analysis of paraffin-embedded mouse skeletal muscle tissue slide using 14221-1-AP (ACTN2 antibody) at dilution of 1:1000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunohistochemical analysis of paraffin-embedded mouse skeletal muscle tissue slide using 14221-1-AP (ACTN2 antibody) at dilution of 1:1000 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).