

For Research Use Only

ACTN2 Polyclonal antibody

Catalog Number: 14221-1-AP

27 Publications



Basic Information

Catalog Number:

14221-1-AP

Concentration:

650 ug/ml

Source:

Rabbit

Isotype:

IgG

Immunogen Catalog Number:

AG5459

GenBank Accession Number:

BC051770

GeneID (NCBI):

88

UNIPROT ID:

P35609

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 1.0-3.0 mg of total protein lysate

IHC: 1:500-1:2000

IF-P: 1:200-1:800

IF-Fro: 1:200-1:800

IF/ICC: 1:50-1:500

Applications

Tested Applications:

WB, IHC, IF/ICC, IF-P, IF-Fro, IP, ELISA

Cited Applications:

WB, IHC, IF

Species Specificity:

human, mouse, rat

Cited Species:

human, mouse, rat, chicken

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-P: mouse heart tissue,

IF-Fro: mouse heart tissue,

IF/ICC: 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, pH7.3

Aliquoting is unnecessary for -20°C storage

For technical support and original validation data for this product please contact:

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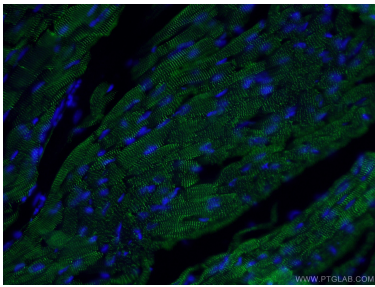
W: ptgcn.com

This product is exclusively available under Proteintech Group brand and is not available to purchase from any other manufacturer.

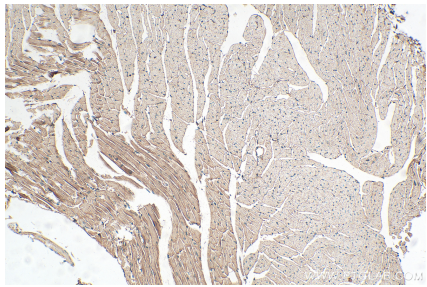
Selected Validation Data



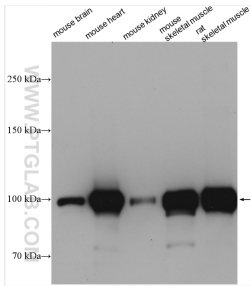
Human iPSC derived cardiomyocyte in 2D culture, with alpha actinin (14221-1-AP) and DAPI. Image courtesy of Chandan Kadir Nagaraju, Experimental Cardiology, KU Leuven, Belgium.



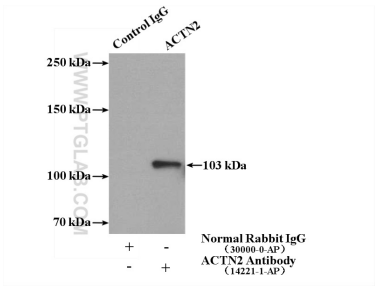
Immunofluorescent analysis of (4% PFA) fixed mouse heart tissue using 14221-1-AP (ACTN2 antibody) at dilution of 1:400 and Alexa Fluor 488-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L).



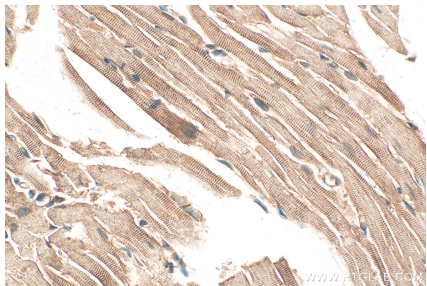
Immunohistochemical analysis of paraffin-embedded mouse heart tissue slide using 14221-1-AP (ACTN2 antibody) at dilution of 1:1000 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



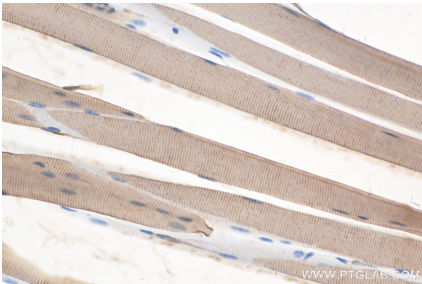
Various lysates were subjected to SDS PAGE followed by western blot with 14221-1-AP (ACTN2 antibody) at dilution of 1:30000 incubated at room temperature for 1.5 hours.



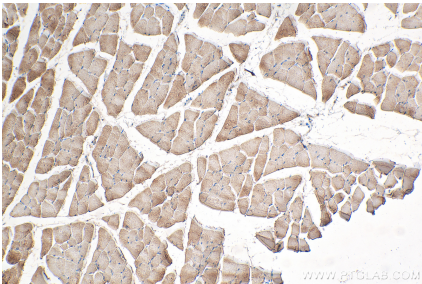
IP result of anti-ACTN2 (IP:14221-1-AP, 4ug; Detection:14221-1-AP 1:1000) with HeLa cells lysate 1080ug.



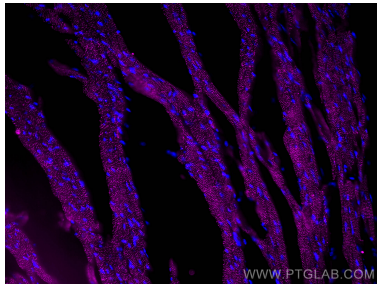
Immunohistochemical analysis of paraffin-embedded mouse heart tissue slide using 14221-1-AP (ACTN2 antibody) at dilution of 1:1000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



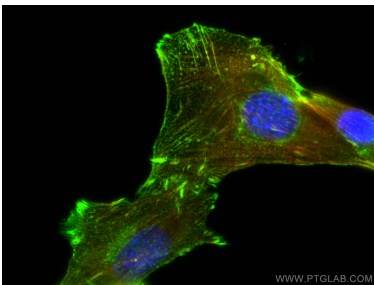
Immunohistochemical analysis of paraffin-embedded mouse skeletal muscle tissue slide using 14221-1-AP (ACTN2 antibody) at dilution of 1:1000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



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).



Immunofluorescent analysis of (4% PFA) fixed frozen OCT-embedded mouse heart tissue using 14221-1-AP (ACTN2 antibody) at dilution of 1:400.



Immunofluorescent analysis of (-20°C Ethanol)
fixed C2C12 cells using ACTN2 antibody (14221-1-
AP) at dilution of 1:200 and CoraLite®488-
Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L),
594phalloidin (red).