

For Research Use Only

ACTN2 Polyclonal antibody

Catalog Number: 14221-1-AP **21 Publications**



Basic Information

Catalog Number: 14221-1-AP	GenBank Accession Number: BC051770	Purification Method: Antigen affinity purification
Size: 150ul, Concentration: 650 ug/ml by Nanodrop;	GeneID (NCBI): 88	Recommended Dilutions: WB 1:5000-1:50000 IP 0.5-4.0 ug for 1.0-3.0 mg of total protein lysate
Source: Rabbit	UNIPROT ID: P35609	IHC 1:500-1:2000
Isotype: IgG	Full Name: actinin, alpha 2	IF-P 1:200-1:800
Immunogen Catalog Number: AG5459	Calculated MW: 104 kDa	IF-Fro 1:200-1:800
	Observed MW: 103 kDa	IF/ICC 1:50-1:500

Applications

Tested Applications: WB, IHC, IF/ICC, IF-P, IF-Fro, IP, ELISA	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
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	

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

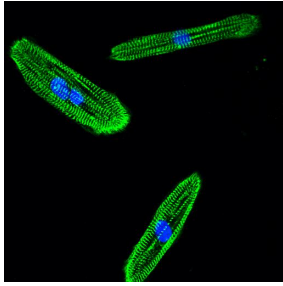
Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol, pH7.3
Aliquoting is unnecessary for -20°C storage

*** 20ul sizes contain 0.1% BSA

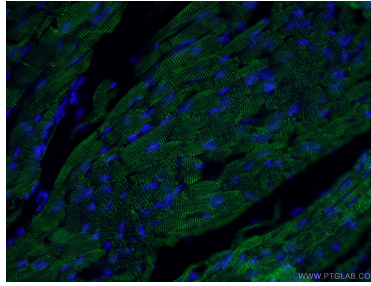
For technical support and original validation data for this product please contact:
T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free in USA), or 1(312) 455-8498 (outside USA)
E: proteintech@ptglab.com
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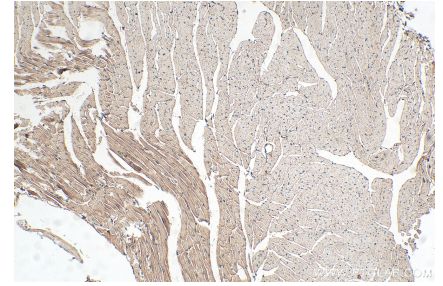
Selected Validation Data



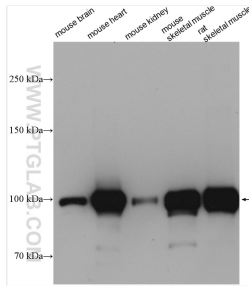
Human iPSC derived cardiomyocyte in 2D culture, with alpha actinin (14221-1-AP) and DAPI. Image courtesy of Chandan Kadir Nagaraju, Experimental Cardiology, KU Leuven, Belgium.



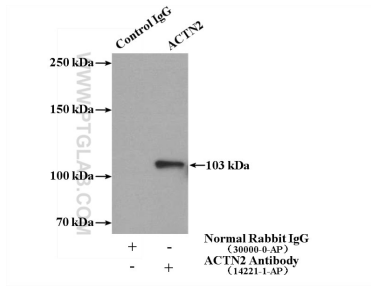
Immunofluorescent analysis of (4% PFA) fixed mouse heart tissue using 14221-1-AP (ACTN2 antibody) at dilution of 1:400 and Alexa Fluor 488-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L).



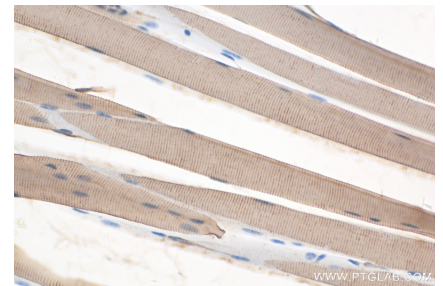
Immunohistochemical analysis of paraffin-embedded mouse heart tissue slide using 14221-1-AP (ACTN2 antibody) at dilution of 1:1000 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



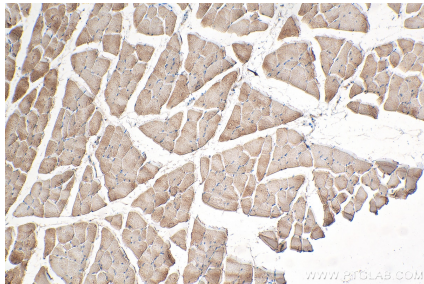
Various lysates were subjected to SDS PAGE followed by western blot with 14221-1-AP (ACTN2 antibody) at dilution of 1:30000 incubated at room temperature for 1.5 hours.



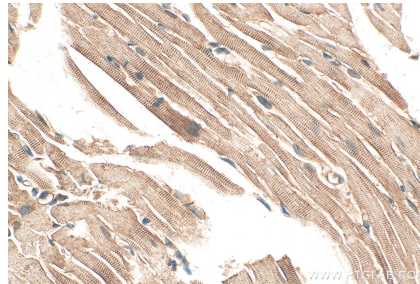
IP result of anti-ACTN2 (IP:14221-1-AP, 4ug; Detection:14221-1-AP 1:1000) with HeLa cells lysate 1080ug.



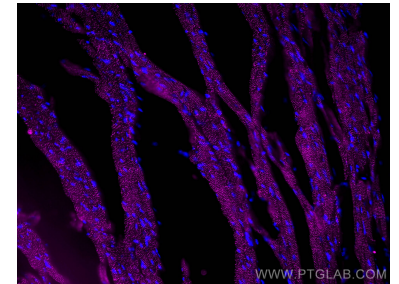
Immunohistochemical analysis of paraffin-embedded mouse skeletal muscle tissue slide using 14221-1-AP (ACTN2 antibody) at dilution of 1:1000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



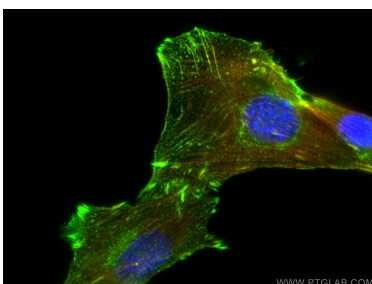
Immunohistochemical analysis of paraffin-embedded mouse skeletal muscle tissue slide using 14221-1-AP (ACTN2 antibody) at dilution of 1:1000 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



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).



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).