

Alpha-Smooth Muscle Actin Monoclonal Antibody (1A4), eBioscience™

Product Details	
Size	100 µg
Species Reactivity	Human, Mouse, Rat
Published Species	Rat, Mouse, Human, Chicken
Host/Isotype	Mouse / IgG2a, kappa
Class	Monoclonal
Type	Antibody
Clone	1A4
Conjugate	Unconjugated
Form	Liquid
Concentration	0.5 mg/mL
Purification	Affinity chromatography
Storage buffer	PBS, pH 7.2
Contains	0.09% sodium azide
Storage conditions	4° C
RRID	AB_2572996

Applications	Tested Dilution	Publications
Western Blot (WB)	1:100	4 Publications
Immunohistochemistry (IHC)	-	17 Publications
Immunohistochemistry (Paraffin) (IHC (P))	Assay-Dependent	1 Publication
Immunohistochemistry (Frozen) (IHC (F))	1 µg/mL	1 Publication
Immunocytochemistry (ICC/IF)	1 µg/mL	13 Publications
Flow Cytometry (Flow)	Assay-Dependent	4 Publications
Immunoprecipitation (IP)	Assay-Dependent	-
In vitro Assay (IV)	-	1 Publication

Product Specific Information

Description: The monoclonal antibody 1A4 recognizes human, mouse, and rat alpha-smooth muscle actin. Alpha-smooth muscle actin is a 42 kDa protein and is a major component of the cytoskeletal structural network. This 1A4 antibody is specific for the alpha form of muscle actin only, which is expressed by smooth muscle cells of blood vessels, myofibroblasts, and myoepithelial cells. It is also expressed in the parenchyma and stroma of various tissues. Alpha-smooth muscle actin is useful in the identification of leiomyomas, leiomyosarcomas and pleomorphic adenomas and is used as a prognostic marker for basal cell carcinoma.

Applications Reported: This 1A4 antibody has been reported for use in intracellular staining followed by flow cytometric analysis, immunoprecipitation, western blotting, immunohistochemical staining of frozen tissue sections, immunohistochemical staining of

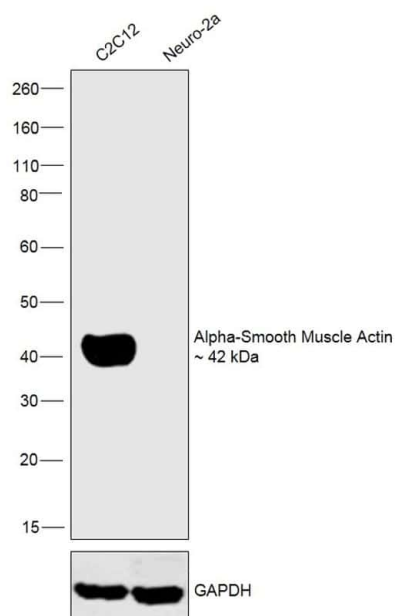
formalin-fixed paraffin embedded tissue sections, microscopy, and immunocytochemistry. (Fluorochrome conjugated 1A4 is recommended for use in intracellular flow cytometry.)

Applications Tested: This 1A4 antibody has been tested by immunohistochemistry of formalin-fixed paraffin embedded human tissue using low or high pH antigen retrieval and can be used at less than or equal to 1 µg/mL. This 1A4 antibody has been tested by immunocytochemistry of formaldehyde or methanol-fixed and permeabilized human cells and can be used at 1 µg/mL. This 1A4 antibody has been tested by western blot analysis of reduced rat and mouse intestine and can be used at less than or equal to 5 µg/mL. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

Purity: Greater than 90%, as determined by SDS-PAGE.

Aggregation: Less than 10%, as determined by HPLC.

Filtration: 0.2 µm post-manufacturing filtered.

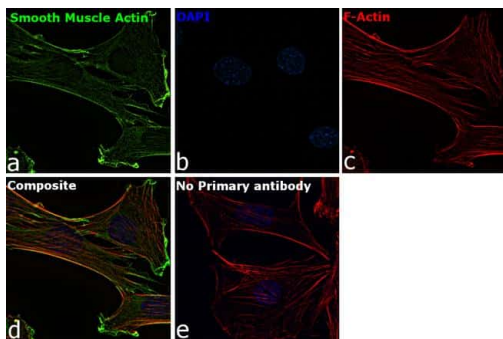


Alpha-Smooth Muscle Actin Antibody (14-9760-82)

Antibody specificity was demonstrated by detection of differential basal expression of the target across cell models tested owing to their inherent genetic constitution. Relative expression of Alpha-Smooth Muscle Actin was observed in C2C12 in comparison to Neuro-2a using Anti-Alpha-Smooth Muscle Actin Monoclonal Antibody (Product # 14-9760-82). {RE}

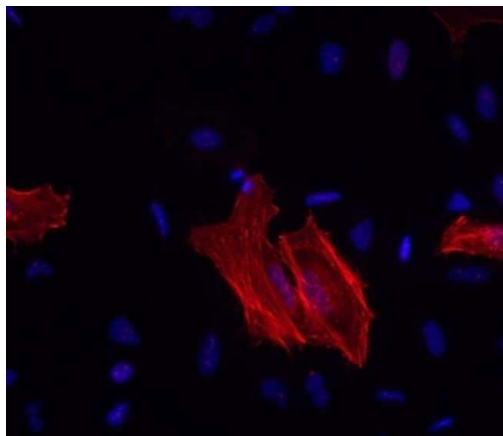
Alpha-Smooth Muscle Actin Antibody (14-9760-82) in ICC/IF

Immunofluorescence analysis of Smooth Muscle Actin was performed using 70% confluent log phase C2C12 cells. The cells were fixed with 4% paraformaldehyde for 10 minutes, permeabilized with 0.1% Triton™ X-100 for 15 minutes, and blocked with 2% BSA for 1 hour at room temperature. The cells were labeled with Smooth Muscle Actin Polyclonal Antibody (Product # 14-9760-82) at 1 µg/mL in 0.1% BSA, incubated at 4 degree Celsius overnight and then labeled with Goat anti-Mouse IgG (H+L) Superclonal™ Recombinant Secondary Antibody, Alexa Fluor® 488 conjugate (Product # A28175) at a dilution of 1:2000 for 45 minutes at room temperature (Panel a: green). Nuclei (Panel b: blue) were stained with SlowFade® Gold Antifade Mountant with DAPI (Product # S36938). F-actin (Panel c: red) was stained with Rhodamine Phalloidin (Product # R415, 1:300). Panel d represents the merged image showing localization to the cytoskeleton. Panel e represents control cells with no primary antibody to assess background. The images were captured at 60X magnification.



Alpha-Smooth Muscle Actin Antibody (14-9760-82) in ICC/IF

Immunocytochemistry of methanol-fixed and permeabilized HeLa cells using 1 µg/mL Anti-Alpha-Smooth Muscle Actin Purified, followed by 10 µg/mL F (ab')₂ Anti-Mouse IgG eFluor® 570.



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Western Blot (4)

Frontiers in pharmacology

Leflunomide Induces Dose-Dependent Lung Injury in Mice via Stimulating Vimentin and NLRP3 Inflammasome Production.

"14-9760-82 was used in Western Blot to examine the dose-dependent lung injury produced by leflunomide in healthy mice."

Authors: El-Sherbiny M, Atef H, Eladl MA, Mohamed AS, El-Shafey M, Ali HS, Zaitone SA, Alomar SY, Alqahtani SAM, Aloyouni SY, Attia MA

Year
2021

Species
Mouse

American journal of physiology. Renal physiology

Differential effects of low-dose sacubitril and/or valsartan on renal disease in salt-sensitive hypertension.

"14-9760-82 was used in Western Blot to investigate if increasing atrial natriuretic peptide levels with sacubitril, combined with renin-angiotensin system blockage by valsartan, can be beneficial for alleviation of renal damage in a model of salt-sensitive hypertension."

Authors: Polina I, Domondon M, Fox R, Sudarikova AV, Troncoso M, Vasileva VY, Kashyrina Y, Gooz MB, Schibalski RS, DeLeon-Pennell KY, Fitzgibbon WR, Ilatovskaya DV

Year
2020

Species
Rat

[View more WB references on thermofisher.com](#)

Immunohistochemistry (17)

Mediators of inflammation

miR-135a Alleviates Silica-Induced Pulmonary Fibrosis by Targeting NF- κ B/Inflammatory Signaling Pathway.

"14-9760 was used in Immunohistochemistry-immunofluorescence to investigate the roles and mechanisms of miR-135a underlying silica-induced pulmonary fibrosis."

Authors: Xie B, Lu C, Chen C, Zhou J, Deng Z

Year
2021

Species
Mouse

Frontiers in pharmacology

Leflunomide Induces Dose-Dependent Lung Injury in Mice via Stimulating Vimentin and NLRP3 Inflammasome Production.

"14-9760-82 was used in Western Blot to examine the dose-dependent lung injury produced by leflunomide in healthy mice."

Authors: El-Sherbiny M, Atef H, Eladl MA, Mohamed AS, El-Shafey M, Ali HS, Zaitone SA, Alomar SY, Alqahtani SAM, Aloyouni SY, Attia MA

Year
2021

Species
Mouse

[View more IHC references on thermofisher.com](#)

More applications with references on thermofisher.com

IHC (P) (1)

IHC (F) (1)

ICC/IF (13)

Flow (4)

IV (1)

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