

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

Product Details	
Size	100 µg
Species Reactivity	Human, Mouse, Rat
Published Species	Rat, Pig, Human, Mouse, 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	8 Publications
Immunohistochemistry (IHC)	-	31 Publications
Immunohistochemistry (Paraffin) (IHC (P))	1:100-1:500	1 Publication
Immunohistochemistry (Frozen) (IHC (F))	1 µg/mL	1 Publication
Immunocytochemistry (ICC/IF)	1 µg/mL	19 Publications
Flow Cytometry (Flow)	Assay-Dependent	4 Publications
Immunoprecipitation (IP)	Assay-Dependent	-
In vitro Assay (IV)	-	1 Publication
Miscellaneous PubMed (Misc)	-	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.).

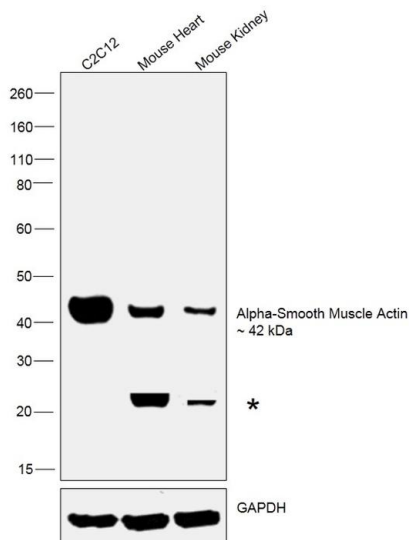
Applications Tested: This 1A4 antibody has been tested by immunohistochemistry of formalin-fixed paraffin embedded human tissue using low or high pH antigen retrieval and can be used at less than or equal to 1 µg/mL. This 1A4 antibody has been tested by immunocytochemistry of formaldehyde or methanol-fixed 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.

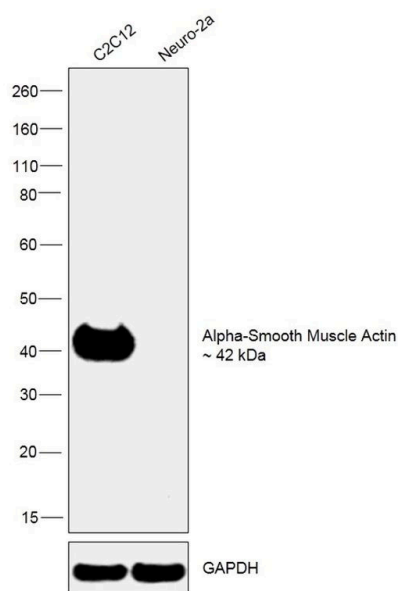
Filtration: 0.2 µm post-manufacturing filtered.

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



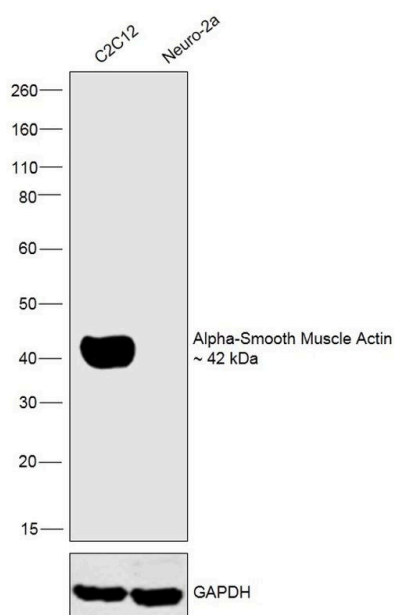
Alpha-Smooth Muscle Actin Antibody (14-9760-82) in WB

Western blot was performed using Anti-Alpha-Smooth Muscle Actin Mouse Monoclonal Antibody (Product # 14-9760-82) and a 42kDa band corresponding to Alpha-Smooth Muscle Actin was observed across cell line and tissues tested. Membrane enriched extracts (30 µg lysate) of C2C12 (Lane 1), tissue extracts of Mouse Heart (Lane 2) and Mouse Kidney (Lane 3) were electrophoresed using NuPAGE® 4-12 % Bis-Tris gel (Product # NP0322BOX). Resolved proteins were then transferred onto a nitrocellulose membrane (Product # IB23001) by iBlot® 2 Dry Blotting System (Product # IB21001). The blot was probed with the primary antibody (1:100 dilution) and detected by chemiluminescence with Goat anti-Mouse IgG (H+L), Superclonal™ Recombinant Secondary Antibody, HRP (Product # A28177, 1:4000 dilution) using the iBright FL 1000 (Product # A32752). Chemiluminescent detection was performed using Novex® ECL Chemiluminescent Substrate Reagent Kit (Product # WP20005). A 25 kDa band (*) corresponding to free IgG was also observed in the tissue extracts.



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 # 14-9760-80). {RE}



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

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[View more figures on thermofisher.com](#)

[66 References](#)

Western Blot (8)

Biomedicines

4-Aminopyridine Induces Nerve Growth Factor to Improve Skin Wound Healing and Tissue Regeneration.

"14-9760-82 was used in Flow Cytometry, Immunocytochemistry, Immunohistochemistry (Frozen), Immunohistochemistry (Paraffin), Immunoprecipitation, Western Blot to discover that 4-aminopyridine causes faster wound closure, restoration of normal-appearing skin architecture, and reinnervation."

Authors: Jagadeeshaprasad MG, Govindappa PK, Nelson AM, Noble MD, Elfar JC

Year
2022

Species
Mouse

Dilution
1:500

Frontiers in cell and developmental biology

Dephosphorylation of Caveolin-1 Controls C-X-C Motif Chemokine Ligand 10 Secretion in Mesenchymal Stem Cells to Regulate the Process of Wound Healing.

"14-9760-82 was used in Immunohistochemistry and Western Blotting to establish a role of p-Cav-1 in controlling cytokine release of MSC and may present a potential therapeutic approach for promoting scarless wound healing."

Authors: Wang P, Zhao Y, Wang J, Wu Z, Sui B, Mao X, Shi S, Kou X

Year
2021

Species
Human
Mouse

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

Immunohistochemistry (31)

Oral diseases

Sialin mediates submandibular gland regeneration ability by affecting polysialic acid synthesis.

"14-9760-82 was used in Immunohistochemistry to indicate that sialin was vital for submandibular gland regeneration which mediated the process of gland regeneration by affecting the polysialic acid synthesis."

Authors: Wang B, Li Z, Li J, Shao Q, Qin L

Year
2023

Species
Rat

Dilution
1:200

Journal of functional biomaterials

Development of Neovasculature in Axially Vascularized Calcium Phosphate Cement Scaffolds.

"14-9760-82 was used in Immunohistochemistry to investigate if sprouting was a general response to surgical injury or placement of an inorganic construct around the vessel."

Authors: Ouhaddi Y, Charbonnier B, Porge J, Zhang YL, Garcia I, Gbureck U, Grover L, Gilardino M, Harvey E, Makhoul N, Barralet J

Year
2023

Species
Rat

Dilution
1:2,000

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More applications with references on thermofisher.com

[IHC \(P\) \(1\)](#)

[IHC \(F\) \(1\)](#)

[ICC/IF \(19\)](#)

[Flow \(4\)](#)

[IV \(1\)](#)

[Misc \(1\)](#)

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