





# Desmin Monoclonal Antibody (D33)

Catalog Number MA5-13259 Product data sheet

Details		Species Reactivity	
Size	500 μL	Species reactivity	Bovine, Dog, Chicken, Cat, Hamster, Human, Non-human
Host/Isotope	Mouse / IgG1, kappa		primate, Rat
Class	Monoclonal	Published species	Dog, Rabbit, Rat, Non-human
Туре	Antibody		primate, Sheep, Cat, Mouse, Human, Not Applicable
Clone	D33	Tested Applications	Dilution *
Immunogen	Desmin from human muscle	Immunohistochemistry (Paraffin)	
Conjugate	Unconjugated	(IHC (P))	1:50-1:100
Form	Liquid	Western Blot (WB)	1:1,000
Concentration	0.2 mg/mL	Immunocytochemistry (ICC/IF)	1:10-1:100
Purification	Protein A/G	Published Applications	
Storage buffer	PBS, pH 7.4, with 0.05% BSA	Immunohistochemistry (IHC)	See 45 publications below
Contains	0.05% sodium azide	Immunocytochemistry (ICC/IF)	See 12 publications below
Storage Conditions	4° C	Immunohistochemistry (Paraffin) (IHC (P))	See 1 publications below
		Flow Cytometry (Flow)	See 3 publications below

<sup>\*</sup> Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

### Product specific information

MA5-13259 targets Desmin in IF and IHC (P) applications and shows reactivity with Bovine, Canine, Chicken, Feline, Hamster, Human, Non-human primate, and Rat samples. The MA5-13259 immunogen is desmin from human muscle.

# Background/Target Information

Desmin (approximately 53 kDa) exhibits a high degree of tissue specificity, its expression being predominantly confined to all types of muscle cells (cardiac, skeletal and smooth muscle). Regulation of desmin expression is stage and tissue-specific, since it is induced during terminal development of, for example, skeletal muscle cell differentiation. In skeletal en cardiac muscle cells desmin is localized in the Z-disk region and at the intercalated disk. The expression pattern of desmin in smooth muscle is much more heterogenous. Coexpression of vimentin and desmin has been observed in tumors derived from muscle tissue, i.e. rhabdomyosarcomas and leiomyosarcomas. Furthermore, during myocard dysfunction dramatic changes in the distribution of desmin have been observed.

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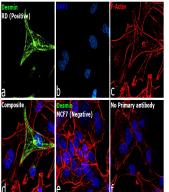


# Product Images For Desmin Monoclonal Antibody (D33)

# Dasmin RD (Positive) a b C Composite MGF7 (Negative) No Primary antibody

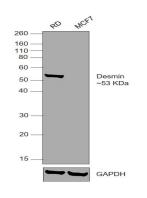
### Desmin Antibody (MA5-13259)

Antibody specificity was demonstrated by detection of differential basal expression of the target across cell models owing to their inherent genetic constitution. Immunofluorescence analysis using Anti-Desmin Monoclonal Antibody (D33) (Product # MA5-13259) shows expression of desmin in RD cells when compared to no expression in MCF7 cells. {RE}



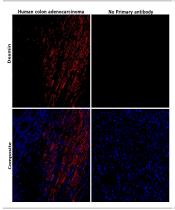
### Desmin Antibody (MA5-13259) in ICC/IF

Immunofluorescence analysis of desmin was performed using 70% confluent log phase RD 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 Desmin Monoclonal Antibody (D33) (Product # MA5-13259) at 1:100 dilution in 0.1% BSA, incubated at 4 degree celsius overnight and then labeled with Donkey anti-Mouse IgG (H+L) Highly Cross-Adsorbed Secondary Antibody, Alexa Fluor Plus 488 (Product # A32766, 1:2000 dilution), for 45 minutes at room temperature (Panel a: Green). Nuclei (Panel b: Blue) were stained with ProLong™ Diamond Antifade Mountant with DAPI (Product # P36962). F-actin (Panel c: Red) was stained with Rhodamine Phalloidin (Product # R415, 1:300). Panel d represents the merged image showing cytoskeletal localization. Panel e represents MCF7 cells with no expression of Desmin. Panel f represents control cells with no primary antibody to assess background. The images were captured at 60X magnification.



### Desmin Antibody (MA5-13259)

Antibody specificity was demonstrated by detection of differential basal expression of the target across the cell lines tested owing to their inherent genetic constitution. Relative expression of desmin was observed in RD as compared to no expression in MCF7 using Anti-Desmin Monoclonal Antibody (D33) (Product # MA5-13259) in Western Blot. {RE}



# Desmin Antibody (MA5-13259) in IHC (P)

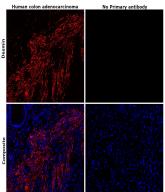
Immunohistochemical analysis of desmin was performed using formalin-fixed paraffin-embedded human colon adenocarcinoma tissue sections. To expose the target protein, heat-induced epitope retrieval was performed on deparaffinized sections using eBioscience™ IHC Antigen Retrieval Solution - Low pH (10X) (Product # 00-4955-58) diluted to 1X solution in water in a decloaking chamber at 110 degree Celsius for 15 minutes. Following antigen retrieval, the sections were blocked with 3% H2O2 for 1 h at toom temperature followed by 2% normal goat serum in 1X PBS for 45 minutes at room temperature. The sections were then probed with or without Desmin Monoclonal Antibody (D33) (Product # MA5-13259) at 1:5000 dilution in 0.1% normal goat serum overnight at 4 degree Celsius in a humidified chamber. Detection was performed using Alexa Fluor™ 647 Tyramide SuperBoost™ Kit, goat antimouse IgG (Product # B40916). Nuclei were stained with DAPI (Product # D1306) and the sections were mounted using ProLong™ Glass Antifade Mountant (Product # P36984). The images were captured on EVOS™ M7000 Imaging System (Product # AMF7000) at 20X magnification and externally deconvoluted.

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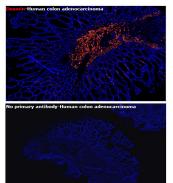
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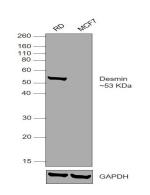
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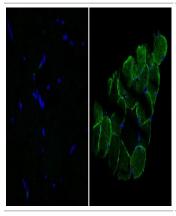
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### Desmin Antibody (MA5-13259) in WB

Western blot was performed using Anti-Desmin Monoclonal Antibody (D33) (Product # MA5-13259) and a 53 kDa band corresponding to desmin was observed in RD as compared to no expression in MCF7. Whole cell extracts (30 µg lysate) of RD (Lane 1) and MCF7 (Lane 2) were electrophoresed using NuPAGE<sup>TM</sup> 10% Bis-Tris Protein Gel (Product # NP0302BOX), 12 well. 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 (1:1000 dilution) and detected by chemiluminescence with Goat anti-Mouse IgG (H+L) Superclonal<sup>TM</sup> Recombinant Secondary Antibody, HRP (Product # A28177, 1:10000 dilution) using the iBright<sup>TM</sup> FL1500 Imaging System (Product # A44115). Chemiluminescent detection was performed using SuperSignal<sup>TM</sup> West Atto Ultimate Sensitivity Substrate (Product # A38556).



# Desmin Antibody (MA5-13259) in ICC/IF

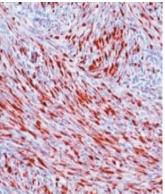
Immunofluorescent analysis of Desmin (green) showing staining in the cytoplasm of human skeletal muscle (right) compared to a negative control without primary antibody (left). Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with a Desmin monoclonal antibody (Product # MA5-13259) in 3% BSA-PBS at a dilution of 1:20 and incubated overnight at 4°C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight-conjugated secondary antibody in PBS at room temperature in the dark. F-actin (red) was stained with a fluorescent red phalloidin and nuclei (blue) were stained with Hoechst or DAPI. Images were taken at a magnification of 60x.

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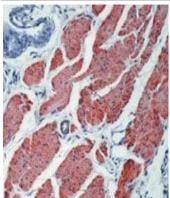
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# Desmin Antibody (MA5-13259) in IHC (P)

Formalin-fixed, paraffin-embedded human leiomyoma stained with Desmin antibody using peroxidase-conjugate and AEC chromogen. Note cytoplasmic staining of muscle cells.



# Desmin Antibody (MA5-13259) in IHC (P)

Formalin-fixed, paraffin-embedded rat bladder stained with Desmin antibody using peroxidase-conjugate and AEC chromogen. Note cytoplasmic staining of muscle cells.

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45 Immunohistochemistry	References
Species / Dilution	Summary
	MA5-13259 was used in immunohistochemistry to study the mechanisms by which the interaction of adipose tissue progenitor cells with endothelial cells promotes vasculogenesis
Human / Not Cited	Tissue engineering. Part A (Sep 2010; 16: 2953)  "Adipose tissue progenitor cells directly interact with endothelial cells to induce vascular network formation."  Author(s):Merfeld-Clauss S,Gollahalli N,March KL,Traktuev DO  PubMed Article URL:http://dx.doi.org/10.1089/ten.tea.2009.0635
	MA5-13259 was used in immunohistochemistry to report on a case of adenomyofibroma of the fimbria in a cynomolgus monkey
Non-human primate / Not Cited	Journal of veterinary diagnostic investigation: official publication of the American Association of Veterinary Laboratory Diagnosticians, Inc (Nov 2009; 21: 892)  "Adenomyofibroma of the fimbria in a cynomolgus monkey (Macaca fascicularis)."  Author(s):Starost MF  PubMed Article URL:http://dx.doi.org/10.1177/104063870902100624
	MA5-13259 was used in immunohistochemistry to report on a patient with collagenous fibroma
Human / Not Cited	Yonsei medical journal (Oct 2004; 45: 941)  "Collagenous fibroma (desmoplastic fibroblastoma)."  Author(s):Dagli M,Eryilmaz A,Acar A,Kulacoglu S,Akmansu H  PubMed Article URL:http://dx.doi.org/10.3349/ymj.2004.45.5.941
Human / Not Cited	MA5-13259 was used in immunohistochemistry to develop a synthetic self-replicating RNA replicon expressing reprogramming factors that enables the efficient generation of induced pluripotent stem cells
	Cell stem cell (Aug 2013; 13: 246) "Efficient generation of human iPSCs by a synthetic self-replicative RNA." Author(s):Yoshioka N,Gros E,Li HR,Kumar S,Deacon DC,Maron C,Muotri AR,Chi NC,Fu XD,Yu BD,Dowdy SF PubMed Article URL:http://dx.doi.org/10.1016/j.stem.2013.06.001
	MA5-13259 was used in immunohistochemistry to report on a case of atypical endometrial stromal cells related to a polypoid leiomyoma with bizarre nuclei
Human / 1:50	International journal of gynecological pathology: official journal of the International Society of Gynecological Pathologists (Oct 2005; 24: 352) <b>"Atypical endometrial stromal cells related with a polypoid leiomyoma with bizarre nuclei: a case report."</b> Author(s):Usubütün A,Karaman N,Ayhan A,Küçükali T PubMed Article URL:http://dx.doi.org/10.1097/01.pgp.0000166996.57196.cb
Dog / 1:100	MA5-13259 was used in immunohistochemistry to report on a case of gingival rhabdomyosarcoma in a dog
	Journal of comparative pathology (Jul 2013; 149: 48) "Gingival rhabdomyosarcoma accompanied by an immature myogenic population immunoreactive for -smooth muscle actin in a dog." Author(s):Kimura M,Suzuki K,Fujii Y,Yamamoto R,Shibutani M,Mitsumori K PubMed Article URL:http://dx.doi.org/10.1016/j.jcpa.2012.11.233
Rat / Not Cited	MA5-13259 was used in immunohistochemistry to study the role of allogenic mesenchymal stem cell transplantation in improved healing of ischemic colon anastomosis
	Langenbeck's archives of surgery (Jan 2011; 396: 115)  "Mesenchymal stem cells improve the healing of ischemic colonic anastomoses (experimental study)."  Author(s):Adas G,Arikan S,Karatepe O,Kemik O,Ayhan S,Karaoz E,Kamali G,Eryasar B,Ustek D  PubMed Article URL:http://dx.doi.org/10.1007/s00423-010-0717-z
Human / 1:100	MA5-13259 was used in immunohistochemistry to report on two cases of uterine tumors resembling ovarian sex cord tumors
	International journal of gynecological pathology: official journal of the International Society of Gynecological Pathologists (Sep 2010; 29: 459)  "Clinicopathologic features of 2 new cases of uterine tumors resembling ovarian sex cord tumors."  Author(s):Giordano G,Lombardi M,Brigati F,Mancini C,Silini EM  PubMed Article URL:http://dx.doi.org/10.1097/PGP.0b013e3181dfcfdc

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Human / 1:50	MA5-13259 was used in immunohistochemistry to study the existence of novel routes of tumour spread via open channels of pseudoangiomatous stromal hyperplasia
	Histopathology (Sep 2002; 41: 208)  "Malignant neoplasms infiltrating pseudoangiomatous' stromal hyperplasia of the breast: an unrecognized pathway of tumour spread."  Author(s):Damiani S,Eusebi V,Peterse JL  PubMed Article URL:http://dx.doi.org/10.1046/j.1365-2559.2002.01443.x
Human / Not Cited	MA5-13259 was used in immunohistochemistry to study the incidence of multiple primary sporadic gastrointestinal stromal tumors
	Clinical cancer research: an official journal of the American Association for Cancer Research (Sep 2008; 14: 5715)  "Multiple primary sporadic gastrointestinal stromal tumors in the adult: an underestimated entity."  Author(s):Gasparotto D,Rossi S,Bearzi I,Doglioni C,Marzotto A,Hornick JL,Grizzo A,Sartor C,Mandolesi A,Sciot R,Debiec-Rychter M,Dei Tos AP,Maestro R  PubMed Article URL:http://dx.doi.org/10.1158/1078-0432.CCR-08-0622
	MA5-13259 was used in Immunohistochemistry-immunofluorescence to understand the role of synemin-protein-encoding SYNM as a novel target of myocardin in smooth muscle cells.
Human / 1:50	American journal of physiology. Cell physiology (Dec 2019; 317: C1128)  "Identification of the intermediate filament protein synemin/SYNM as a target of myocardin family coactivators."  Author(s):Swärd K,Krawczyk KK,Morén B,Zhu B,Matic L,Holmberg J,Hedin U,Uvelius B,Stenkula K,Rippe C  PubMed Article URL:http://dx.doi.org/10.1152/ajpcell.00047.2019
	MA5-13259 was used in immunohistochemistry to report on two cases of two intraligamentary lipomatous tumors
Human / Not Cited	Acta obstetricia et gynecologica Scandinavica (Aug 2002; 81: 786)  "Two intraligamentary lipomatous tumors with immunohistochemical features."  Author(s):Cinel L,Dümez D,Nabaei SH,Taner D,Pata O  PubMed Article URL:http://dx.doi.org/10.1034/j.1600-0412.2002.810818.x
Human / Not Cited	MA5-13259 was used in immunohistochemistry to report on a case of interdigitating dendritic cell tumor with breast and cervical lymph-node involvement
	Virchows Archiv: an international journal of pathology (May 2005; 446: 546)  "Interdigitating dendritic cell tumor with breast and cervical lymph-node involvement: a case report and review of the literature."  Author(s):Uluolu O,Akyürek N,Uner A,Cokun U,Ozdemir A,Gökçora N  PubMed Article URL:http://dx.doi.org/10.1007/s00428-005-1209-3
	MA5-13259 was used in immunohistochemistry to report on a case of dural angioleiomyoma of the middle cranial fossa
Human / Not Cited	Brain tumor pathology (Apr 2013; 30: 117)  "Dural angioleiomyoma of the middle cranial fossa: a case report and review of the literature."  Author(s):Zhou Z,Yu M,Yang S,Zhou J,Sun R,Yang G  PubMed Article URL:http://dx.doi.org/10.1007/s10014-012-0115-z
	MA5-13259 was used in immunohistochemistry to study the cyclooxygenase-2 expression and its effect on mesenchymal tumor growth and recurrence
Human / Not Cited	APMIS: acta pathologica, microbiologica, et immunologica Scandinavica (Nov 2009; 117: 825)  "Cyclooxygenase-2 expression and connection with tumor recurrence and histopathologic parameters in gastrointestinal stromal tumors."  Author(s):Türköz HK,Alkan I,Siman S,Ozcan D  PubMed Article URL:http://dx.doi.org/10.1111/j.1600-0463.2009.02537.x
Human / 1:150	MA5-13259 was used in immunohistochemistry to report on a case of reactive nodular fibrous pseudotumor involving the pelvic and abdominal cavity
	Virchows Archiv: an international journal of pathology (Nov 2005; 447: 879)  "Reactive nodular fibrous pseudotumor involving the pelvic and abdominal cavity: a case report and review of literature."  Author(s):Saglam EA,Usubütün A,Kart C,Ayhan A,Küçükali T  PubMed Article URL:http://dx.doi.org/10.1007/s00428-005-0027-y
	MA5-13259 was used in immunohistochemistry to test if damage to the lymphoid tissue fibroblastic reticular cell network contributes to naive T cell loss during HIV-1 infection
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Species / Dilution	Summary
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Human / 1:50	Experimental and therapeutic medicine (Feb 2016; 11: 561)  "Fibroblastic reticular cell tumor of the breast: A case report and review of the literature."  Author(s):Li H,Shen P,Liang Y,Zhang F  PubMed Article URL:http://dx.doi.org/10.3892/etm.2015.2922
3 Flow Cytometry Refe	rences
Species / Dilution	Summary
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