The Data You Need Without the Background You Don't

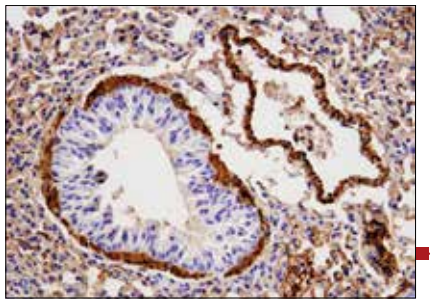
Rabbit monoclonal antibodies overcome mouse-on-mouse staining without additional protocol steps

Don't let mouse monoclonal antibodies limit your research on mouse tissue. Avoid excessive background staining or additional protocol steps by starting with a rabbit monoclonal antibody that is backed by CST's industry-leading IHC-validation practices.

Mouse Monoclonal Antibodies Can Lead to Uninterpretable Results in Mouse Tissues

A mouse monoclonal antibody will specifically stain the target of interest if properly validated, but data interpretation likely suffers from detection of endogenous mouse IgG by the anti-mouse IgG detection reagent. Here, immunohistochemical (IHC) analysis of paraffin-embedded mouse lung using an α-smooth muscle actin mouse monoclonal antibody followed by an anti-mouse IgG detection reagent shows specific staining where expected, but also shows excessive background staining due to the anti-mouse IgG secondary. The only way to avoid the mouse IgG background is to add laborious steps to your protocol or switch to a nonrodent antibody such as a rabbit monoclonal antibody with an anti-rabbit IgG secondary.

α-Smooth Muscle Actin (1A4) Mouse mAb and Anti-Mouse IgG Detection Reagent

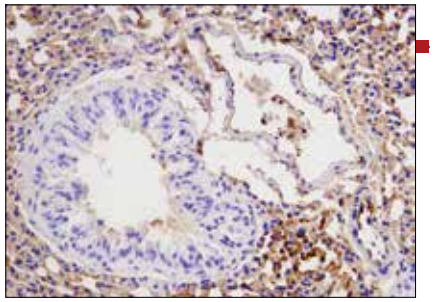


Note: excessive background staining caused by mouse IgG secondary.

Mouse-on-Mouse Background Staining Is Caused by Anti-Mouse IgG Secondaries

The use of a mouse primary antibody requires an anti-mouse IgG secondary antibody or detection reagent that stains the IgG protein throughout the mouse tissue sample, not just the primary antibody. Shown here is IHC analysis of paraffin-embedded mouse lung using SignalStain® Boost IHC Detection Reagent (HRP, Mouse) #8125 in the absence of a primary antibody.

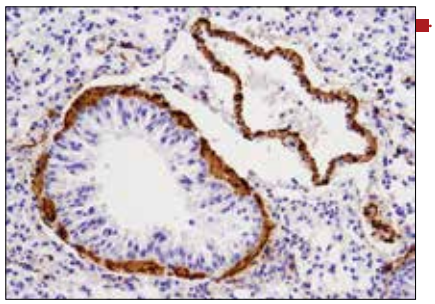
Anti-Mouse IgG Detection Reagent



Rabbit Monoclonal Antibodies Provide Interpretable Mouse Tissue Results Without Additional Protocol Steps

Use rabbit monoclonal primary antibodies that have been validated for IHC on mouse tissue to overcome mouse-on-mouse staining and discover clear, interpretable results. At the right is shown IHC analysis of paraffin-embedded mouse lung using α-Smooth Muscle Actin (D4K9N) XP® Rabbit mAb #19245.

α-Smooth Muscle Actin (D4K9N) XP® Rabbit mAb and Anti-Rabbit



Note: the lack of background staining, which was prevented by the use of a rabbit monoclonal antibody with a rabbit IgG secondary.

Learn how we validate preclinical IHC tools at:
cst-science.com/mousemodeltools

Cell Signaling TECHNOLOGY®

Rabbit Monoclonal Antibodies Prevalidated for IHC in Mouse Tissue

Visit cst-science.com/mouse-IHC for protocol details, including Leica® BOND™ protocols for select products.

Cell Biology		Applications	Reactivity
#14796	Bax (D3R2M) Rabbit mAb (Rodent Preferred)	WB, IP, IHC-P	M, R
#13116	N-Cadherin (D4R1H) XP® Rabbit mAb	WB, IP, IHC-P, IF-IC	H, M
#37259	CD44 (E7K2Y) XP® Rabbit mAb	WB, IHC-P	H, M, R
#71655	EGF Receptor (D1P9C) Rabbit mAb (Mouse Preferred)	WB, IP, IHC-P, IF-F, IF-IC, F	M
#93790	EpCAM (E6V8Y) XP® Rabbit mAb (Mouse Preferred)	WB, IP, IHC-P	H, M, R
#12708	HER3/ErbB3 (D22C5) XP® Rabbit mAb	WB, IP, IHC-P, IF-IC, F	H, M, (R)
#13166	Integrin ß3 (D7X3P) XP® Rabbit mAb	WB, IHC-P	H, M
#71536	Keratin 5 (E2T4B) XP® Rabbit mAb (IHC Preferred)	IHC-P	H, M
#12202	Ki-67 (D3B5) Rabbit mAb (Mouse Preferred; IHC Formulated)	IHC-P	M
#39141	Olfm4 (D6Y5A) XP® Rabbit mAb (Mouse Specific)	WB, IP, IHC-P, IF-F	M
#94885	Cleaved PARP (Asp214) (D6X6X) Rabbit mAb (Rodent Specific)	WB, IP, IHC-P, IF-IC, F	M, R
#13110	PCNA (D3H8P) XP® Rabbit mAb	WB, IP, IHC-P, IF-F, IF-IC, F	H, M, R, Mk
#31647	Perforin (E3W4I) Rabbit mAb	WB, IHC-P	M
#19245	α-Smooth Muscle Actin (D4K9N) XP® Rabbit mAb	WB, IP, IHC-P, IF-F	H, M, R
#13901	Vinculin (E1E9V) XP® Rabbit mAb	WB, IHC-P, F	H, M, R, Mk

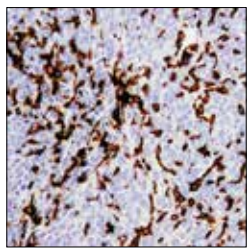
Developmental Biology		Applications	Reactivity
#19807	Non-phospho (Active) β-Catenin (Ser45) (D2U8Y) XP® Rabbit mAb	WB, IP, IHC-P, IF-F, IF-IC, F	H, M, R, Mk, Z, Dg
#11988	HES1 (D6P2U) Rabbit mAb	WB, IP, IHC-P	H, M, R, Mk
#46535	SMAD4 (D3R4N) XP® Rabbit mAb	WB, IP, IHC-P, IF-IC, F, ChIP, ChIP-seq	H, M, R, Mk
#82630	Sox9 (D8G8H) Rabbit mAb	WB, IHC-P, IF-IC, F	H, M, (M, R)
#14074	YAP (D8H1X) XP® Rabbit mAb	WB, IP, IHC-P, IF-IC, F, ChIP, ChIP-seq	H, M, R, Hm, Mk, (B, Hr)

Epigenetics		Applications	Reactivity
#12354	ARID1A/BAF250A (D2A8U) Rabbit mAb	WB, IHC-P, ChIP	H, M, R, Mk
#85322	EED (E4L6E) XP® Rabbit mAb	WB, IP, IHC-P, IF-IC, F, ChIP	H, M, R, Mk
#12041	Glucocorticoid Receptor (D6H2L) XP® Rabbit mAb	WB, IP, IHC-P, IF-IC, F, ChIP, ChIP-seq	H, M, R, Mk

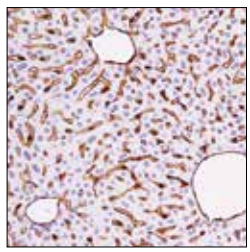
Metabolism		Applications	Reactivity
#50081	Phospho-AMPKα (Thr172) (D4D6D) Rabbit mAb	WB, IP, IHC-P	H, M, R, (C, Z, B, Pg)
#93668	Arginase-1 (D4E3M™) XP® Rabbit mAb	WB, IHC-P, IF-F, IF-IC, F	H, M, R
#38563	COX IV (D6I4K) Rabbit mAb (Rodent Specific)	WB, IP, IHC-P	M, R
#23214	SQSTM1/p62 (D6M5X) Rabbit mAb (Rodent Specific)	WB, IP, IHC-P, IF-IC	M, R

Neuroscience		Applications	Reactivity
#94871	Adora2a/Adenosine Receptor A2a (E5I8X) XP® Rabbit mAb (Rodent Specific)	IHC-P, IF-F	M, R
#80788	GFAP (E4L7M) XP® Rabbit mAb	WB, IHC-P, IF-F	H, M, R
#78896	Myelin Basic Protein (D8X4Q) XP® Rabbit mAb	WB, IHC-P, IF-F, IF-IC	H, M, R
#99746	NCAM1 (CD56) (E7X9M) XP® Rabbit mAb	WB, IP, IHC-P, IF-F, IF-IC, F	H, M, R
#24307	NeuN (D4G4O) XP® Rabbit mAb	WB, IHC-P, IF-F	H, M, R
#46687	Tau (D1M9X) XP® Rabbit mAb	WB, IHC-P, IF-F, IF-IC	H, M, R

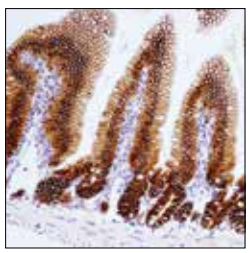
Immunology		Applications	Reactivity
#8547	Btk (D3H5) Rabbit mAb	WB, IP, IHC-P, F	H, M, (R, Hm, B, Dg, Pg, Hr)
#99940	CD3ε (D4V8L) Rabbit mAb	WB, IHC-P	M
#25229	CD4 (D7D2Z) Rabbit mAb	WB, IHC-P	M, R
#98941	CD8α (D4W2Z) XP® Rabbit mAb (Mouse Specific)	WB, IHC-P	M
#97585	CD11c (D1V9Y) Rabbit mAb	WB, IHC-P, IF-F, IF-IC	M
#90176	CD19 (D4V4B) XP® Rabbit mAb	WB, IP, IHC-P	H, M, (B)
#77699	CD31 (PECAM-1) (D8V9E) XP® Rabbit mAb	WB, IHC-P	M
#14481	CD39/NTPDase 1 (E2X6B) XP® Rabbit mAb (Mouse Specific)	WB, IHC-P	M
#86165	CD40 (E2Z7J) Rabbit mAb	WB, IP, IHC-P	M
#70257	CD45 (D3F8Q) Rabbit mAb	IP, IHC-P, IF-F, IF-IC	M
#70076	F4/80 (D2S9R) XP® Rabbit mAb	WB, IP, IHC-P	M
#96397	FcγRIIB (D8F9C) XP® Rabbit mAb (Mouse Specific)	WB, IP, IHC-P, F	M
#12653	FoxP3 (D608R) Rabbit mAb	IHC-P, IF-F, F	M
#44153	Granzyme B (E5V2L) Rabbit mAb (Mouse Specific)	WB, IHC-P, F	M
#13160	NT5E/CD73 (D7F9A) Rabbit mAb	WB, IHC-P	H, M, R
#84651	PD-1 (D7D5W) XP® Rabbit mAb (Mouse Specific)	WB, IP, IHC-P, IF-F, IF-IC, F	M, (R, Hm)
#64988	PD-L1 (D5V3B) Rabbit mAb (Mouse Specific; IHC Specific)	IHC-P	M
#49189	PD-L2 (D6L5A) Rabbit mAb	IHC-P	M
#73425	S100A9 (D3U8M) Rabbit mAb (Rodent Specific)	WB, IP, IHC-P, IF-F, F	M, R
#13647	STING (D2P2F) Rabbit mAb	WB, IP, IHC-P	H, M
#83882	TIM-3 (D3M9R) XP® Rabbit mAb (Mouse Specific)	WB, IP, IHC-P	M
#32653	VCAM-1 (D2T4N) Rabbit mAb (Mouse Specific)	WB, IHC-P	M



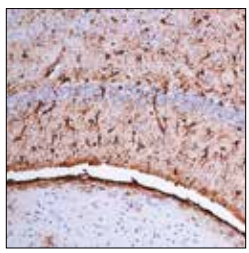
F4/80 (D2S9R) XP® Rabbit mAb #70076: IHC analysis of paraffin-embedded CT26.WT syngeneic tumor using #70076 performed on the Leica® BOND™.



CD31 (PECAM-1) (D8V9E) XP® Rabbit mAb #77699: IHC analysis of paraffin-embedded mouse liver using #77699.



EpCAM (E6V8Y) XP® Rabbit mAb (Mouse Preferred) #93790: IHC analysis of paraffin-embedded mouse small intestine using #93790.



GFAP (E4L7M) XP® Rabbit mAb #80788: IHC analysis of paraffin-embedded mouse hippocampus using #80788.

Learn how we validate preclinical IHC tools at:

cst-science.com/mousemodeltools

Cell Signaling TECHNOLOGY®