Store at -20°C

#99746

NCAM1 (CD56) (E7X9M) XP® Rabbit mAb

Cell Signaling TECHNOLOGY®

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Entrez-Gene ID #4684
UniProt ID #P13591

New 07/19

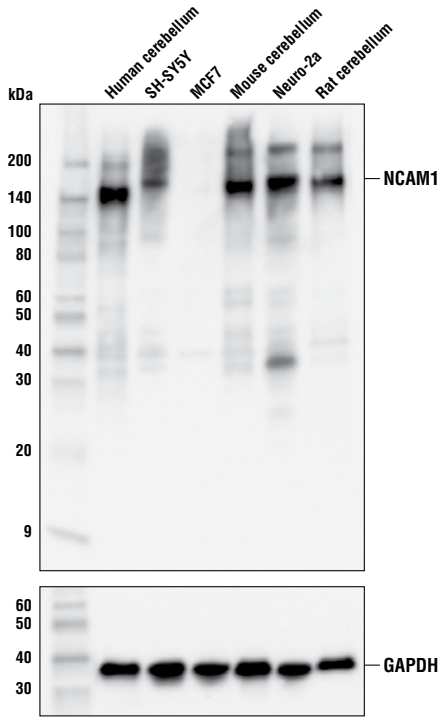
For Research Use Only. Not For Use In Diagnostic Procedures.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, IHC-P, IF-F, IF-IC, F Endogenous	H, M, R	120-220 kDa	Rabbit IgG**

Background: NCAM (neural cell adhesion molecule, CD56) is an adhesion glycoprotein with five extracellular immunoglobulin-like domains followed by two fibronectin type III repeats. Structural diversity is introduced by alternative splicing resulting in different cytoplasmic domains (1). NCAM mediates neuronal attachment, neurite extension and cell-cell interactions through homo and heterophilic interactions. PSA (polysialic acid) post-translationally modifies NCAM and increases the metastatic potential of small cell lung carcinoma, Wilms+ tumor, neuroblastoma and rhabdomyosarcoma (2). CD56 and CD16 are commonly used to identify NK cells although some cells with the T cell markers CD3 and CD4 also express CD56 (3).

Specificity/Sensitivity: NCAM1 (CD56) (E7X9M) XP® Rabbit mAb recognizes endogenous levels of total NCAM1/CD56 protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro799 of human NCAM1/CD56 protein.



Western blot analysis of extracts from various cell lines and tissues using NCAM1 (CD56) (E7X9M) XP® Rabbit mAb (upper) or GAPDH (D16H11) XP® Rabbit mAb #5174 (lower).

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:50
Immunohistochemistry (Paraffin)	1:100-1:400
Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.	
Unmasking buffer: SignalStain® Citrate Unmasking Solution (10X) #14746	
Antibody diluent: SignalStain® Antibody Diluent #8112	
Detection reagent: SignalStain® Boost (HRP, Rabbit) #8114	
Immunohistochemistry (Leica® BOND™)	1:50-1:200
Immunofluorescence (IF-IC)	1:50
Fixative:	4% Formaldehyde
Permeabilization:	0.3% Triton X-100
Immunofluorescence (IF-F)	1:50
Fixative:	4% Formaldehyde
Permeabilization:	0.3% Triton X-100
Flow Cytometry	1:200-1:800

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com.

Background References:

(1) Cunningham, B. A. et al. (1987) *Science* 236, 799-806.

(2) Seidenfaden, R. et al. (2003) *Mol. Cell. Biol.* 23, 5908-5918.

(3) Robertson, M.J. and Ritz, J. (1990) *Blood* 76, 2421-2438.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween®20 at 4°C with gentle shaking, overnight.

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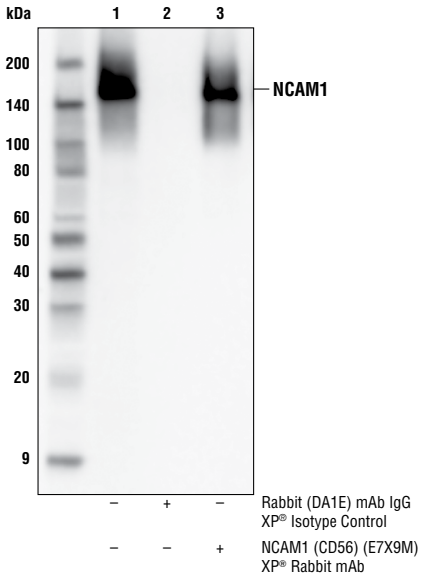
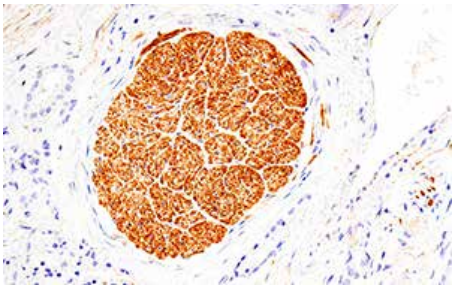
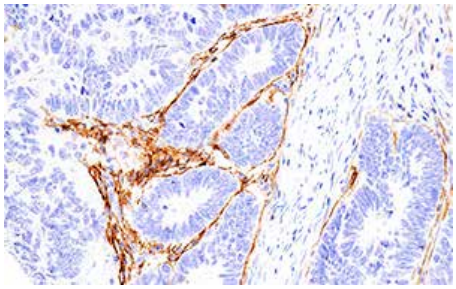
Applications: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide **Species Cross-Reactivity:** **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—Horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



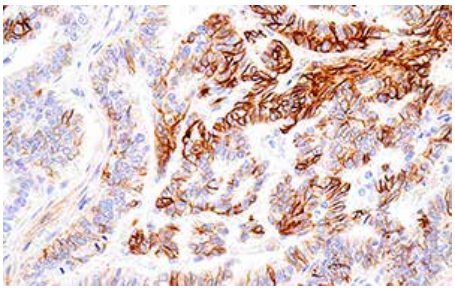
Immunoprecipitation of NCAM1 protein from SH-SY5Y cell extracts. Lane 1 is 10% input, lane 2 is Rabbit (DA1E) mAb IgG XP® Isotype Control #3900, and lane 3 is NCAM1 (CD56) (E7X9M) XP® Rabbit mAb. Western blot analysis was performed using NCAM1 (CD56) (123C3) Mouse mAb #3576. Anti-mouse IgG, HRP-linked Antibody #7076 was used as the secondary antibody.



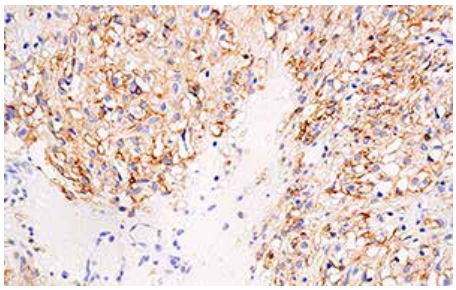
Immunohistochemical analysis of paraffin-embedded human prostate adenocarcinoma with staining of peripheral nerve using NCAM1 (CD56) (E7X9M) XP® Rabbit mAb performed on the Leica® BOND™ Rx.



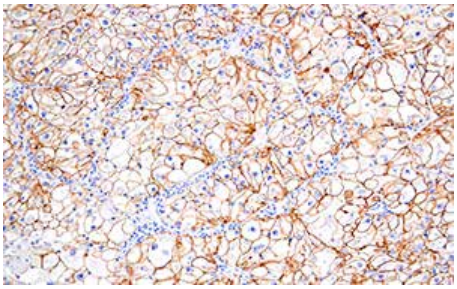
Immunohistochemical analysis of paraffin-embedded human colon adenocarcinoma using NCAM1 (CD56) (E7X9M) XP® Rabbit mAb.



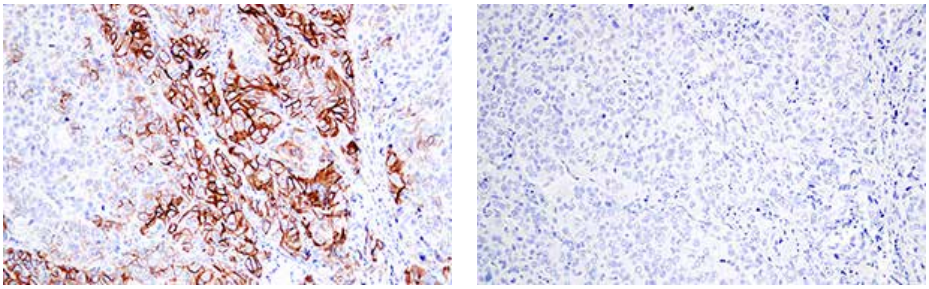
Immunohistochemical analysis of paraffin-embedded human endometrioid adenocarcinoma using NCAM1 (CD56) (E7X9M) XP® Rabbit mAb.



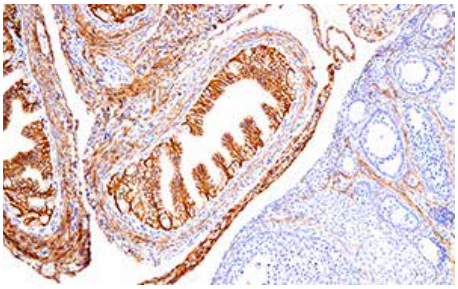
Immunohistochemical analysis of paraffin-embedded human gastrointestinal stromal tumor using NCAM1 (CD56) (E7X9M) XP® Rabbit mAb.



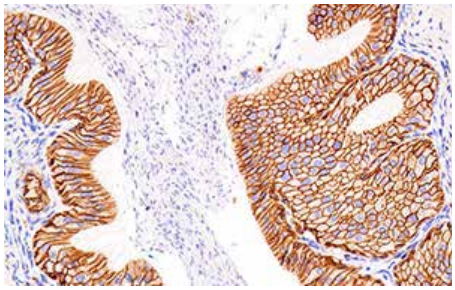
Immunohistochemical analysis of paraffin-embedded human renal cell carcinoma using NCAM1 (CD56) (E7X9M) XP® Rabbit mAb.



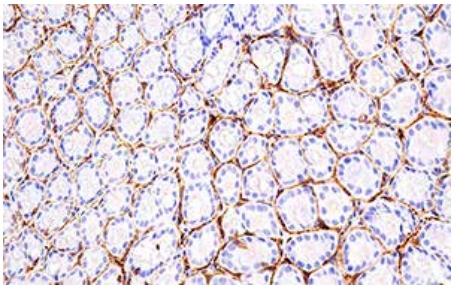
Immunohistochemical analysis of paraffin-embedded human ductal breast carcinoma using NCAM1 (CD56) (E7X9M) XP® Rabbit mAb (left) compared to concentration-matched Rabbit (DA1E) mAb IgG XP® Isotype Control #3900 (right).



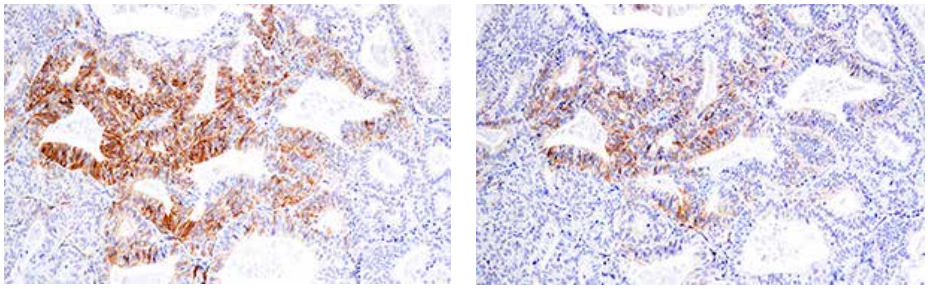
Immunohistochemical analysis of paraffin-embedded mouse ovary using NCAM1 (CD56) (E7X9M) XP® Rabbit mAb.



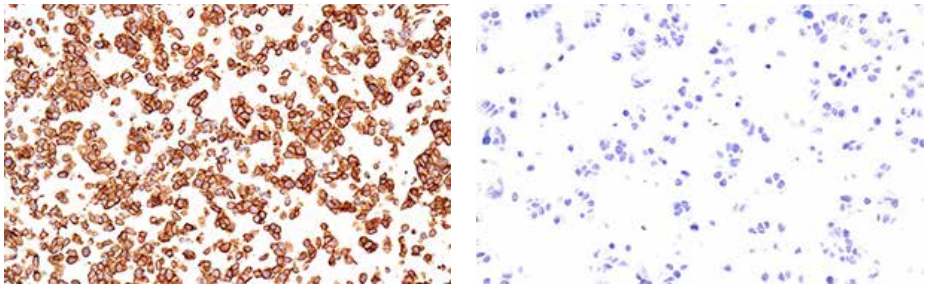
Immunohistochemical analysis of paraffin-embedded mouse prostate using NCAM1 (CD56) (E7X9M) XP® Rabbit mAb.



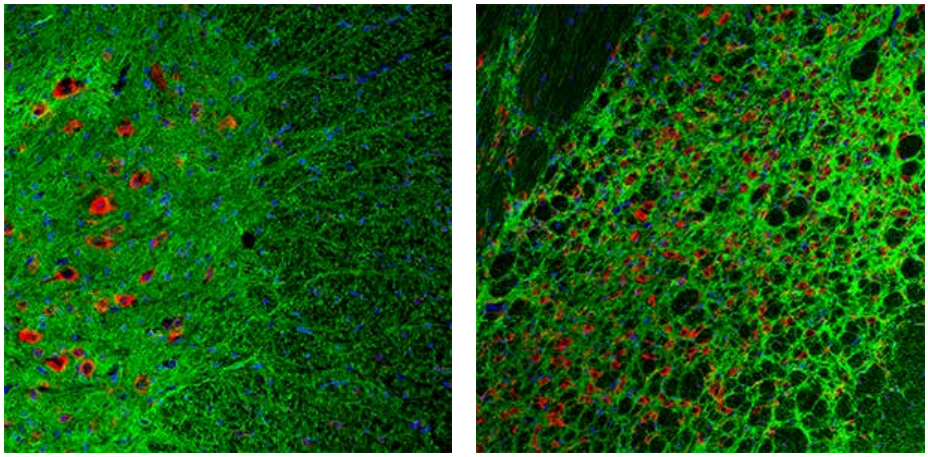
Immunohistochemical analysis of paraffin-embedded mouse colon using NCAM1 (CD56) (E7X9M) XP® Rabbit mAb.



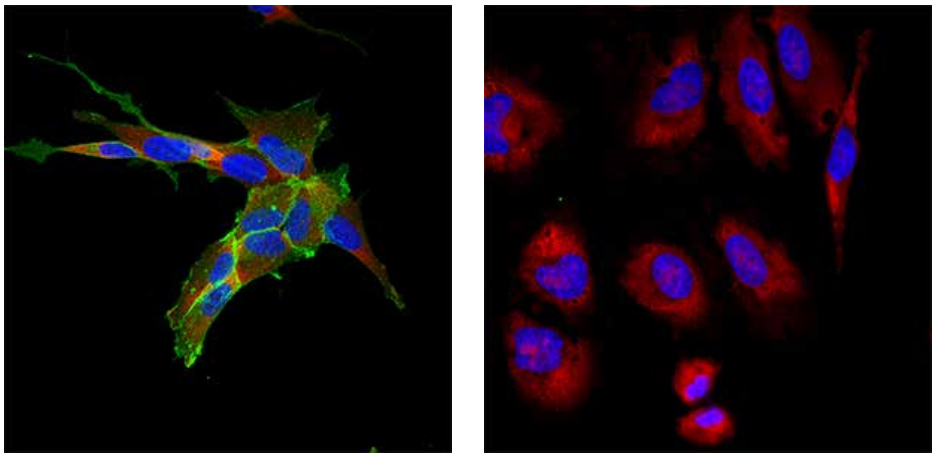
Immunohistochemical analysis of paraffin-embedded endometrioid adenocarcinoma using NCAM1 (CD56) (E7X9M) XP® Rabbit mAb (left) or NCAM (CD56) (123C3) Mouse mAb #3576 (right). These two antibodies detect independent, unique epitopes on human NCAM1. The similar staining patterns obtained with both antibodies help to confirm the specificity of the staining.



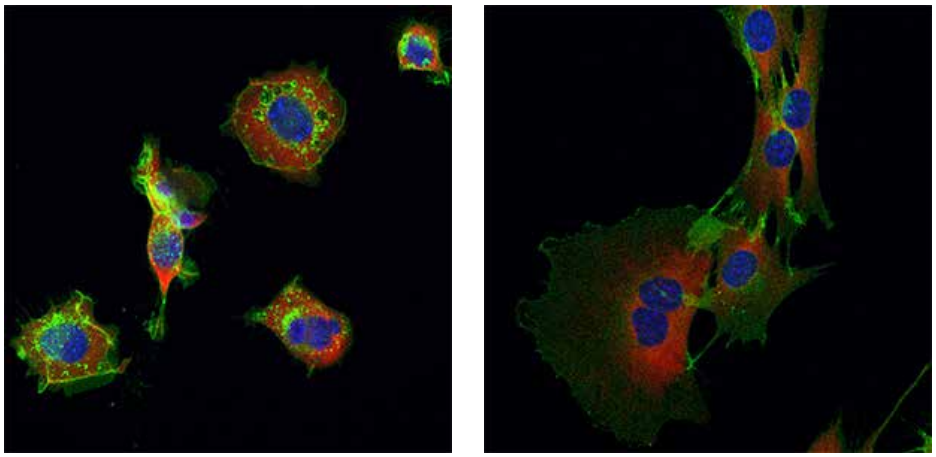
Immunohistochemical analysis of paraffin-embedded SH-SY5Y cell pellet (left, positive) or MCF7 cell pellet (right, negative) using NCAM1 (CD56) (E7X9M) XP® Rabbit mAb.



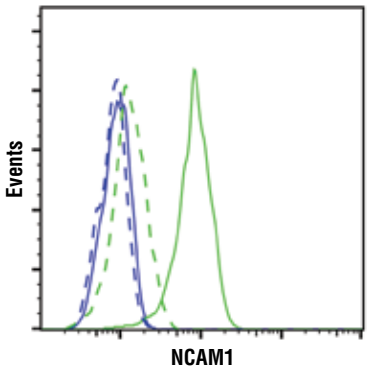
Confocal immunofluorescent analysis of mouse spinal cord (left), or rat brainstem (right) using NCAM1 (CD56) (E7X9M) XP® Rabbit mAb (green) and S6 Ribosomal Protein (54D2) Mouse mAb (Alexa Fluor® 647 Conjugate) #5548 (red). Tissue was mounted in ProLong® Gold Antifade Reagent with DAPI #8961 (blue).



Confocal immunofluorescent analysis of SH-SY5Y cells (left, positive) or HeLa cells (right, negative) using NCAM1 (CD56) (E7X9M) XP® Rabbit mAb (green) and S6 Ribosomal Protein (54D2) Mouse mAb (Alexa Fluor® 647 Conjugate) #5548 (red). Cells were mounted in ProLong® Gold Antifade Reagent with DAPI #8961 (blue).



Confocal immunofluorescent analysis of Neuro-2a cells (left, high-expressing) or C2C12 cells (right, low-expressing) using NCAM1 (CD56) (E7X9M) XP® Rabbit mAb (green) and S6 Ribosomal Protein (54D2) Mouse mAb (Alexa Fluor® 647 Conjugate) #5548 (red). Cells were mounted in ProLong® Gold Antifade Reagent with DAPI #8961 (blue).



Flow cytometric analysis of HeLa cells (blue) and SH-SY5Y cells (green) using NCAM1 (CD56) (E7X9M) XP® Rabbit mAb (solid lines) or a concentration-matched Rabbit (DA1E) mAb IgG XP® Isotype Control #3900 (dashed lines). Anti-rabbit IgG (H+L), $F(ab')_2$ Fragment (Alexa Fluor® 488 Conjugate) #4412 was used as a secondary antibody.