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NuMA (D49H4) Rabbit mAb

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Entrez-Gene ID #4926
UniProt ID #Q14980

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IF-IC	H, Mk	238 kDa	Rabbit IgG**
Endogenous			

Background: The nuclear mitotic apparatus protein (NuMA) is a coiled coil protein involved in the formation and maintenance of the mitotic spindle. NuMA plays a role in chromatin organization during interphase, which influences mammary epithelial differentiation (1,2). During apoptosis, carboxy-terminal cleavage of NuMA may amplify signaling in the cell death pathway (2). NuMA is phosphorylated at numerous sites, with phosphorylation at Ser395 occurring in an ATM/ATR-dependent manner in response to DNA damage (3,4).

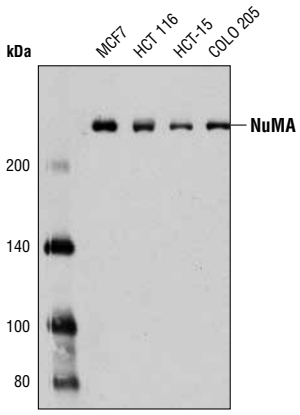
Phosphorylation at Thr2055 by CDK1 is required for spindle pole association of NuMA at the onset of mitosis. Dephosphorylation by PPP2CA leads to enhancement of NuMA at the cell cortex in anaphase and proper cell-cycle progression (5,6).

Specificity/Sensitivity: NuMA (D49H4) Rabbit mAb detects endogenous levels of total NuMA protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human NuMA protein.

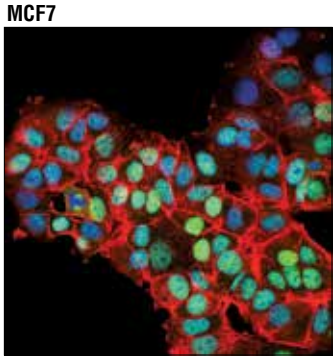
Background References:

(1) Abad, P.C. et al. (2007) *Mol Biol Cell* 18, 348-61.
(2) Lin, H.H. et al. (2007) *J Biomed Sci* 14, 681-94.
(3) Stokes, M.P. et al. (2007) *Proc Natl Acad Sci USA* 104, 19855-60.
(4) Matsuoka, S. et al. (2007) *Science* 316, 1160-6.
(5) Kotak, S. et al. (2013) *EMBO J* 32, 2517-29.
(6) Seldin, L. et al. (2013) *Mol Biol Cell* 24, 3651-62.



Western blot analysis of extracts from various cell lines using NuMA (D49H4) Rabbit mAb.

MCF7



Confocal immunofluorescent analysis of MCF7 cells using NuMA (D49H4) Rabbit mAb (green). Actin filaments were labeled with DyLight™ 554 Phalloidin #13054 (red). Blue pseudocolor= DRAQ5® #4084 (fluorescent DNA dye).

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
Immunofluorescence (IF-IC)	1:50

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

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.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **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.