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#5196

## NDRG1 Antibody

For Research Use Only. Not for Use in Diagnostic Procedures.

<b>Applications:</b> W, IP, IHC-P	<b>Reactivity:</b> H M R Mk	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 46, 48	<b>Source/Isotype:</b> Rabbit	<b>UniProt ID:</b> #Q92597	<b>Entrez-Gene Id:</b> 10397
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### Product Usage Information

#### Application

Western Blotting  
Immunoprecipitation  
Immunohistochemistry (Paraffin)

#### Dilution

1:1000  
1:50  
1:100

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

### Specificity/Sensitivity

NDRG1 Antibody detects endogenous levels of total NDRG1 protein.

### Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues in the carboxy terminus of human NDRG1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

### Background

N-myc downstream-regulated gene 1 (NDRG1), also termed Cap43, Drg1, RTP/rit42, and Proxy-1, is a member of the NDRG family, which is composed of four members (NDRG1-4) that function in growth, differentiation, and cell survival (1-5). NDRG1 is ubiquitously expressed and highly responsive to a variety of stress signals, including DNA damage (4), hypoxia (5), and elevated levels of nickel and calcium (2). Expression of NDRG1 is elevated in N-myc defective mice and is negatively regulated by N- and c-myc (1,6). During DNA damage, NDRG1 is induced in a p53-dependent fashion and is necessary for p53-mediated apoptosis (4,7). Research studies have shown that NDRG1 may also play a role in cancer progression by promoting differentiation, inhibiting growth, and modulating metastasis and angiogenesis (3,4,6,8,9). Nonsense mutation of the *NDRG1* gene has been shown to cause hereditary motor and sensory neuropathy-Lom (HMSNL), which is supported by studies demonstrating the role of NDRG1 in maintaining myelin sheaths and axonal survival (10,11). NDRG1 is upregulated during mast cell maturation and its deletion leads to attenuated allergic responses (12). Both NDRG1 and NDRG2 are substrates of SGK1, although the precise physiological role of SGK1-mediated phosphorylation is not known (13). NDRG1 is phosphorylated by SGK1 at Thr328, Ser330, Thr346, Thr356, and Thr366. Phosphorylation by SGK1 primes NDRG1 for phosphorylation by GSK-3.

### Background References

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- Murray, J.T. et al. (2004) *Biochem J* 384, 477-88.

### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

### Western Blot Buffer

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

### Applications Key

**W:** Western Blotting **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin)

### Cross-Reactivity Key

**H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey

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