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**Product Data Sheet**


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Product Name: NDRG1 Human  
 Cat. No.: GP24024  
 Batch No.: 1

**Product Data**

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Protein NDRG1; N-myc downstream-regulated gene 1 protein; Differentiation-related gene 1 protein; Reducing agents and tunicamycin-responsive protein; Nickel-specific induction protein Cap43; DRG-1; RTP; Rit42; NDRG1; CAP43; DRG1; GC4; NDR1; NMSL; TDD5; CMT4D; HMSNL; TARG1; PROXY1.		
Amino Acid Sequence	MSREMQDVDL AEVKPLVEKG ETITGLLQEF DVQEQDIETL HGSVHVTLCG TPKGNRPVIL TYHDIGMNHK TCYNPLFNYE DMQEITQHFAVCHVDAPGQQ DGAASFPAGY MYPSMDQLAE MLPGVLQQFG LKSIIGMGTG AGAYILTRFA LNNPEMVEGL VLINVNPCAE GWMDWAASKI SGWTQALPDM VVSHLFGKEE MQSNVEVVHT YRQHIVNDMN PGNLHLFINA YNSRRDLEIE RPMPGTHTVT LQCPALLVVG DSSPAVDAVV ECNSKLDPTK TLLKMACDGLPQISQPAK LAEAFKYFVQ GMGYMPSASM TRLMRSRTAS GSSVTSLDGT RSRSHTSEGT RSRSHTSEGT RSRSHTSEGA HLDITPNSGA AGNSAGPKSM EVSCLEHHHH HH		
Formulation	The NDRG1 solution contains 20mM Tris-HCl buffer (pH8.0), 0.1mM PMSF and 10% Glycerol.		

**Introduction**

NDRG1 is a cytoplasmic protein that is involved in stress responses, hormone responses, cell growth, and differentiation. NDRG1 is one of 4 members of the NDRG 1/2-hydrolase family. NDRG1 is classified in databases as a tumor suppressor and heavy metal-response protein. NDRG1's functions include cell-cycle regulation, cellular differentiation, apoptosis, hypoxia response and metal-ion sensing. NDRG1 is also essential for p53-mediated caspase activation and apoptosis. The NDRG1 is a Rab4a effector that is involved in vesicular recycling of E-cadherin. NDRG1 is ubiquitous; it is expressed most notably in placental membranes and prostate, kidney, small intestine,

**Caution: Product has not been fully validated for medical applications. For research use only.**

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and ovary tissues. NDRG1 has reduced expression in adenocarcinomas compared to normal tissues. NDRG1 gene mutations are reported to be the cause for hereditary motor and sensory neuropathy-Lom (HMSN1), which is a severe autosomal recessive form of Charcot- Marie-Tooth (CMT) disease. In addition, decreased NDRG1 expression in glioma is linked to tumor progression. On the other hand, overexpression of NDRG1 is connected to malignant status of esophageal cancer. NDRG1 may also have a role in portal vein invasion and intrahepatic metastasis in human hepatocellular carcinoma.

### Biological Activity

Measured in a cell proliferation assay using MCF7 cell. The ED50 for this effect is 0.5 - 1.5ng/ml, corresponding to a Specific Activity of 666,000 -2,000,000 IU/mg.

### Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

### Background

NDRG1 Human Recombinant fused with 8 amino acid His tag at C-terminus produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 402 amino acids (1-394 a.a.) and having a molecular mass of 43.9 kDa. The NDRG1 is purified by proprietary chromatographic techniques.

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