

## RNF146 Protein, Human

Cat. No.:	HY-P701556
Synonyms:	RNF146; E3 ubiquitin-protein ligase RNF146; Dactylidin; Iduna; RING finger protein 146; RING-type E3 ubiquitin transferase RNF146
Species:	Human
Source:	E. coli
Accession:	Q9NTX7 (M2-V359)
Gene ID:	81847
Molecular Weight:	

### PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.22 µm filtered solution of 50 mM Tris-HCl, pH7.5, 200 mM NaCl, 20% glycerol.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	Please use rapid thawing with running water to thaw the protein.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

### DESCRIPTION

Background	<p>RNF146 Protein, functioning as an E3 ubiquitin-protein ligase, exhibits a specialized role in recognizing and binding poly-ADP-ribosylated (PARsylated) proteins, orchestrating their ubiquitination, and subsequent degradation. This molecular mechanism positions RNF146 at the nexus of crucial biological processes, including cell survival and the DNA damage response. Particularly noteworthy is its function as an activator of the Wnt signaling pathway, achieved through mediating the ubiquitination of PARsylated AXIN1 and AXIN2, key components of the beta-catenin destruction complex. Operating in tandem with tankyrase proteins (TNKS and TNKS2), RNF146 targets various proteins, including AXIN1, AXIN2, BLZF1, CASC3, TNKS, and TNKS2, recognizing and binding them via its WWE domain and subsequently promoting their ubiquitination for degradation. The observed ubiquitin linkage types vary, with TNKS2 undergoing ubiquitination at 'Lys-48' and 'Lys-63', while AXIN1 is exclusively ubiquitinated at 'Lys-48'. Beyond its role in Wnt signaling, RNF146 emerges as a neuroprotective protein, safeguarding against N-methyl-D-aspartate (NMDA) receptor-mediated glutamate excitotoxicity and ischemia by disrupting PAR-induced cell death (parthanatos). Additionally, it plays a crucial role in cellular responses to DNA damage, promoting DNA repair, cell survival post-gamma irradiation, and rescuing cells from G1 arrest induced by DNA-damaging agents like N-methyl-N-nitro-N-nitrosoguanidine (MNNG). This multifaceted functionality underscores the significance of RNF146 in maintaining cellular integrity and response to diverse challenges.</p>
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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