

## HPF1 Protein, Human, Recombinant (His &amp; Myc &amp; SUMO)

## General Information

Synonyms: HPF1;C4orf27;Histone PARylation factor 1

Protein Construction: 1-346 aa

Species: Human

Expression Host: E. coli

Accession: Q9NWX4

Molecular Weight: 59.4 kDa (predicted)

AA Sequence: MVGGGGKRRPGGEGPQCEKTTDVKKSKEADVSSDLRKEVENHYKLSLPEDFYHFWKFCEELDPEKPSDSL  
SASLGLQLVGPYDILAGKHKTKKKSTGLNLFNLHWRFFYDPPFQTIIGDNKTQYHMGYFRDSPDEFPPVYVGI  
NEAKKNCIIVPNGDNVFAAVKLFLLTKKLRITDKKKINLLKNIDEKLEAARELGYSLEQRTVKMKQRDKKVVTK  
TFHGAGLVVPVDKNDVGYRELPEADLKRICKTIVEAASDEERLKAFAPIQEMMTFVQFANDECDYGMGLEL  
GMDLFCYGSYFHKVAGQLLPLAYNLLKRNLFAEIIIEHLANRSQENIDQLAA

## QC Testing

Biological Activity: Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.

Purity: > 85% as determined by SDS-PAGE.

Endotoxin: < 1.0 EU/μg of the protein as determined by the LAL method.

Formulation: Tris-based buffer, 50% glycerol

## Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

## Protein Background

Cofactor for serine ADP-ribosylation that confers serine specificity on PARP1 and PARP2 and plays a key role in DNA damage response. Initiates the repair of double-strand DNA breaks: recruited to DNA damage sites by PARP1 and PARP2 and switches the amino acid specificity of PARP1 and PARP2 from aspartate or glutamate to serine

residues, licensing serine ADP-ribosylation of target proteins. Serine ADP-ribosylation of target proteins, such as histones, promotes decompaction of chromatin and the recruitment of repair factors leading to the reparation of DNA strand breaks. Serine ADP-ribosylation of proteins constitutes the primary form of ADP-ribosylation of proteins in response to DNA damage. HPF1 acts by completing the active site of PARP1 and PARP2: forms a composite active site composed of residues from HPF1 and PARP1 or PARP2. HPF1 also promotes tyrosine ADP-ribosylation, probably by conferring tyrosine specificity on PARP1.

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