

## p53 Protein, Rat, Recombinant (His)

### General Information

Synonyms: Tp53;P53;Tumor suppressor p53;Cellular tumor antigen p53

Protein Construction: 1-391 aa

Species: Rat

Expression Host: E. coli

Accession: P10361

Molecular Weight: 47.5 kDa (predicted)

AA Sequence: MEDSQSDMSIELPLSQETFSCSLWKLPPDDILPTTATGSPNSMEDLFLPQDVAELLEGPEEALQVSAPAAQEP  
GTEAPAPVAPASATPWPLSSVPSQKTYQGNYGFHLGFLQSGTAKSVMCTYSISLNKLFQQLAKTCPVQLWV  
TSTPPPGRVVRAMAIYKKSQHMTEVVRRCPHHERCSDGDGLAPPQHILRVEGNPYAEYLDDRQTFRHSVVVP  
YEPPEVGSDYTTIHKYKMCNSSCMGGMNRRPILTIITLEDSSGNLLGRDSFEVVRVCACPGRRRTEENFRKKE  
EHCPELPPGSAKRALPTSTSSSPQKKKPLDGEYFTLKIRGRERFEMFRELNEALELKDARAAEESGDSRAHSS  
YPKTKKGQSTSRHKKPMIKKVGPDSD

### 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: > 90% 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

Acts as a tumor suppressor in many tumor types; induces growth arrest or apoptosis depending on the physiological circumstances and cell type. Involved in cell cycle regulation as a trans-activator that acts to

negatively regulate cell division by controlling a set of genes required for this process. One of the activated genes is an inhibitor of cyclin-dependent kinases. Apoptosis induction seems to be mediated either by stimulation of BAX and FAS antigen expression, or by repression of Bcl-2 expression. Its pro-apoptotic activity is activated via its interaction with PPP1R13B/ASPP1 or TP53BP2/ASPP2. However, this activity is inhibited when the interaction with PPP1R13B/ASPP1 or TP53BP2/ASPP2 is displaced by PPP1R13L/iASPP. In cooperation with mitochondrial PPIF is involved in activating oxidative stress-induced necrosis; the function is largely independent of transcription. Prevents CDK7 kinase activity when associated to CAK complex in response to DNA damage, thus stopping cell cycle progression. Induces the transcription of long intergenic non-coding RNA p21 (lincRNA-p21) and lincRNA-Mkln1. LincRNA-p21 participates in TP53-dependent transcriptional repression leading to apoptosis and seems to have an effect on cell-cycle regulation. Regulates the circadian clock by repressing CLOCK-ARNTL/BMAL1-mediated transcriptional activation of PER2.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481