

p53 Protein, Rat (His)

Cat. No.:	HY-P71703
Synonyms:	Tp53; P53; Cellular tumor antigen p53; Tumor suppressor p53
Species:	Rat
Source:	E. coli
Accession:	P10361 (1M-391D)
Gene ID:	24842
Molecular Weight:	Approximately 50 kDa

PROPERTIES

AA Sequence	<pre> M E D S Q S D M S I E L P L S Q E T F S C L W K L L P P D D I L P T T A T G S P N S M E D L F L P Q D V A E L L E G P E E A L Q V S A P A A Q E P G T E A P A P V A P A S A T P W P L S S S V P S Q K T Y Q G N Y G F H L G F L Q S G T A K S V M C T Y S I S L N K L F C Q L A K T C P V Q L W V T S T P P P G T R V R A M A I Y K K S Q H M T E V V R R C P H H E R C S D G D G L A P P Q H L I R V E G N P Y A E Y L D D R Q T F R H S V V V P Y E P P E V G S D Y T T I H Y K Y M C N S S C M G G M N R R P I L T I I T L E D S S G N L L G R D S F E V R V C A C P G R D R R T E E E N F R K K E E H C P E L P P G S A K R A L P T S T S S S P Q Q K K K P L D G E Y F T L K I R G R E R F E M F R E L N E A L E L K D A R A A E E S G D S R A H S S Y P K T K K G Q S T S R H K K P M I K K V G P D S D </pre>
Appearance	Lyophilized powder.
Formulation	Lyophilized after extensive dialysis against solution in 10 mM Tris-HCl, 1 mM EDTA, 6% Trehalose, pH 8.0.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	The p53 protein acts as a tumor suppressor in various tumor types and can induce growth arrest or apoptosis depending on the specific circumstances and cell type. It plays a crucial role in regulating the cell cycle by acting as a trans-activator that negatively controls cell division by regulating a group of genes essential for this process. One of the genes activated by p53
------------	--

is an inhibitor of cyclin-dependent kinases. Apoptosis can be triggered either through the stimulation of BAX and FAS antigen expression or by repressing Bcl-2 expression. Its pro-apoptotic function is facilitated by its interaction with PPP1R13B/ASPP1 or TP53BP2/ASPP2. However, this activity is inhibited when PPP1R13L/iASPP displaces the interaction with PPP1R13B/ASPP1 or TP53BP2/ASPP2. Additionally, p53, in cooperation with mitochondrial PPIF, is involved in activating oxidative stress-induced necrosis, which is largely independent of transcription. In response to DNA damage, p53 prevents CDK7 kinase activity by associating with the CAK complex, thereby halting cell cycle progression. Moreover, p53 induces the transcription of long intergenic non-coding RNA p21 (lincRNA-p21) and lincRNA-Mkln1, which participate in TP53-dependent transcriptional repression leading to apoptosis and potentially influence cell-cycle regulation. Furthermore, p53 regulates the circadian clock by repressing CLOCK-ARNTL/BMAL1-mediated transcriptional activation of PER2.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA