Recombinant Human His6 p53

Catalog Number: SP-450

DESCRIPTION

Source	*E. coli*-derived human p53 protein Met1 - Asp393 with a N-terminal 6-His tag Accession # NP_000537.3
Predicted Molecular Mass	46 kDa

SPECIFICATIONS

Activity	Recombinant Human His6-p53 is ideal for use as a control substrate for *in vitro* Ubiquitin conjugation. Reaction conditions will need to be optimized for each specific application. We recommend an initial Recombinant Human His6-p53 concentration of 0.5-2.5 µM.
Purity	>75%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain.
Formulation	Supplied as a solution in HEPES, NaCl, Glycerol. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Shipping	The product is shipped with dry ice or equivalent. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 6 months from date of receipt, -70 °C as supplied. • 3 months, -70 °C under sterile conditions after opening.

BACKGROUND

p53 is well known for its key role as a tumor suppressor protein. It is 393 amino acids (aa) in length with a predicted molecular weight of 44 kDa. It belongs to the p53 family that also includes p63 and p73 (1,2). Structurally, p53 is characterized by an N-terminal transactivation domain, central DNA-binding and oligomerization domains, and a C-terminal regulatory domain. It is thought to exist as a homotetramer, and it exhibits approximately 72% and 76% aa identity with its mouse and rat orthologs, respectively. Mutations in the p53 gene are one of the most frequent genomic events accompanying oncogenic transformation (3). p53 responds to signals such as DNA damage or cell stress primarily through its actions as a transcription factor. Among its gene targets are a range factors that promote DNA repair mechanisms or apoptosis, including cell cycle regulatory proteins and members the Bcl-2 family (3). Because of its critical role in genomic homeostasis, p53 activities are tightly regulated by a network of protein-protein interactions, microRNAs, and a range of post-translational modifications, including phosphorylation, acetylation, methylation, and ubiquitination (3-5). A widely studied regulator is Murine Double Minute 2 (MDM2). MDM2 is known to suppress p53 activity through direct binding or through its actions as a Ubiquitin ligase (E3) that catalyzes p53 ubiquitination and proteasome-mediated degradation (6,7).

References:

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