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California Bioscience

Product Datasheet

Product Name	p53 Protein Human Recombinant
Cata No	CB500923
Source	*Escherichia Coli.*
Synonyms	Cellular tumor antigen p53, Tumor suppressor p53, Phosphoprotein p53, Antigen NY-CO-13, TP53, P53, LFS1, TRP53, FLJ92943.

Description

Tumor protein p53 responds to various cellular stresses by regulating target genes that induce cell cycle arrest, apoptosis, senescence, DNA repair, or changes in metabolism. p53 is a tumor suppressor gene expressed in a wide variety of tissue types and is involved in regulating cell growth, replication, and apoptosis. p53 is a DNA-binding protein containing transcription activation, DNA-binding & oligomerization domains.

p53 binds to mdm2, SV40 T antigen and human papilloma virus E6 protein p53 senses DNA damage and possibly facilitating repair. p53 protein is a transcription factor which is encoded in humans by the TP53 gene. Alterations of TP53 occur not only as somatic mutations in human malignancies, but also as germline mutations in some cancer-prone families with Li-Fraumeni syndrome. p53 mutants that often occur in many different human cancers fail to bind the consensus DNA binding site, and hence cause the loss of tumor suppressor activity. Mutation involving p53 is found in a wide variety of malignant tumors, including breast, ovarian, bladder, colon, lung, and melanoma. The p53 expression in normal cells is low and in an assortment of transformed cell lines is high, which may contribute to transformation and malignancy. Multiple p53 variants encode distinct isoforms, which can regulate p53 transcriptional activity. p53's significance in multicellular organisms is in cell cycle regulation therefore it functions as a tumor suppressor that is involved in preventing cancer. p53's role in conserving stability by preventing genome mutation has earned it descriptions such as "the guardian of the genome," "the guardian angel gene," and the "master watchman." The name p53 refers to its evident molecular mass: it migrates as a 53kDa protein on SDS-PAGE. However, based on calculations from its amino acid residues, p53's mass is in fact only 43.7kDa. This difference is attributed to the high number of proline residues in the protein which slow its migration on SDS-PAGE, consequently making it appear larger than it actually is.

p53 Human Recombinant produced in E.Coli is a non-glycosylated, polypeptide chain. p53 Human Recombinant is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile Filtered clear solution.

Purity

Greater than 95.0% as determined by SDS-PAGE.

Formulation

Purified human p53 in 20mM Tris, pH 8, 0.6M Nacl and 50% Glycerol.

Stability

For long term storage store at -20℃.

Avoid freeze/thaw cycles.

Applications

· P53 is an excellent substrate for kinase assays.

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· It can be used as a reagent for development of DNA based binding Assay.

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