CREATIVE BIOMART®
Assay Kit

Phospho-p53 (Ser15) Translocation Assay Kit (Cell-Based)

Product Information

Cat

Kit-1030

Common Name

p53

Cat.No. Kit-1030

Description

Tumor protein p53 (TP53, p53) is a widely conserved transcription factor and tumor suppressor commonly referred to as the "guardian of the genome". Due to the presence of transcriptional activation, DNA binding, and oligomerization domains, p53 responds to diverse cellular stresses to regulate expression of target genes, thereby inducing cell cycle arrest, apoptosis, senescence, DNA repair, or changes in metabolism. Mutations in p53 gene are associated with numerous human cancers and about 50% of those mutations result in loss of function. Multiple genotoxic and non-genotoxic stimuli lead to stabilization and activation of p53 that are mediated by numerous post-translational modifications. The N-terminus of p53 is heavily phosphorylated, whereas the C-terminus may be phosphorylated, acetylated neddylated, ubiquitinated or sumoylated. In unstressed cells, the level of p53 protein is downregulated via binding to MDM2, COP1, PIRH2 or JNK that promote p53 degradation. Cellular stress and Nutlin-3, a potent inhibitor of Mdm2-p53 interaction, activate and increase level of p53 in the cell due to lack of negative regulation. Presence of three putative nuclear localization signals (NLSs) on its C-terminus, promotes translocation of some of the activated p53 into the nucleus thus activating genes that induce cell cycle arrest, senescence, or apoptosis. Phospho-p53 (Ser15) Translocation Assay Kit provides a simple and complete assay in a ready to use format to visualize the nuclear translocation of activated p53 in mammalian cells.

Applications

Detection of nuclear translocation of phosphorylated p53 in mammalian cells

Storage

-20°C

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Shipping	
Gel Pack	
Size	
50 assays	
Kit Components	
Fixative Solution Blocking Buffer; Wash Buffer; Phospho-p53 Primary Antibody (100X); Secondary Antibody (100X); Nutlin-3; DAPI (1000X)	
Target Species	
Human, mouse, rat	
Detection method	Fluorescence microscope capable of measuring EX at 570 nm and equipped with UV filter for DAPI
Features & Benefits	
Detection of nuclear translocation of phosphorylated p53 in mammalian cells; Characterize/Screen/Study for effectors of p53 cellular levels; Detection of cellular stress or DNA damage caused by genotoxic and non-genotoxic stimuli	

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