



Recombinant Protein Technical Manual
Recombinant Human GADD45A/DDIT Protein (His &
GST Tag)
RPES3234

Product Data:

Product SKU: RPES3234

Size: 20µg

Species: Human

Expression host: Baculovirus-Insect Cells

Uniprot: P24522

Protein Information:

Molecular Mass: 46.2 kDa

AP Molecular Mass: 46 kDa

Tag: N-His & GST

Bio-activity:

Purity: > 95 % as determined by reducing SDS-PAGE.

Endotoxin: < 1.0 EU per µg as determined by the LAL method.

Storage: Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

Shipping: This product is provided as lyophilized powder which is shipped with ice packs.

Formulation: Lyophilized from sterile 20mM Tris, 500mM NaCl, pH 7.4, 10% gly

Reconstitution: Please refer to the printed manual for detailed information.

Application:

Synonyms: Growth Arrest and DNA Damage-Inducible Protein GADD45 Alpha; DNA Damage-Inducible Transcript 1 Protein; DDIT; GADD45A; DDIT1; GADD45

Immunogen Information:

Sequence: Met 1-Arg 165

Background:

GADD45A is a member of the GADD45 Family, and has been found to associate with several cytoplasmic and nuclear factors and has been implicated in several cellular functions, including MAPK signaling, cell cycle regulation, DNA repair and genomic stability, apoptosis, and immune responses. The GADD45 Family of genes is rapidly induced by different stressors, including differentiation-inducing cytokines, and there is a large body of evidence that their cognate proteins are key players in cellular stress responses. GADD45A protein has been reported to interact with multiple important cellular proteins, including Cdc2 protein kinase, proliferating cell nuclear antigen (PCNA), p21Waf1/Cip1 protein, core histone protein and MTK/MEKK4, an up-stream activator of the JNK/SAPK pathway, indicating that GADD45A may play important roles in the control of cell cycle checkpoint, DNA repair process, and signaling transduction. GADD45A expression in response to genotoxic stress illustrates a more complex scenario, wherein transcriptional changes operate in concert with mRNA turnover and translational regulation. GADD45A was the first stress-inducible gene determined to be up-regulated by p53 and is also a target for the p53 homologues, p63 and p73. The decreased GADD45A expression is also considered a survival mechanism, as cancer cells without this control can evade the apoptotic pathway leading to increased tumorigenesis. As GADD45A is an essential component of many metabolic pathways that control proliferating cancer cells, it presents itself as an emerging drug target worthy of further investigation.