

Recombinant Human GADD45A Protein (His Tag)

Catalog Number: PDEH100957

Note: Centrifuge before opening to ensure complete recovery of vial contents.

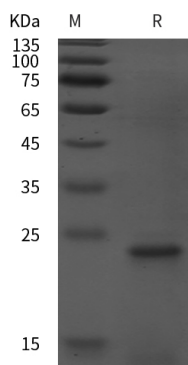
Description

Species	Human
Source	E.coli-derived Human GADD45A protein Met1-Arg165, with an N-terminal His
Calculated MW	18.0 kDa
Observed MW	23 kDa
Accession	P24522
Bio-activity	Not validated for activity

Properties

Purity	> 95% as determined by reducing SDS-PAGE.
Endotoxin	< 10 EU/mg of the protein as determined by the LAL method
Storage	Generally, 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 a 0.2 µm filtered solution in PBS with 5% Trehalose and 5% Mannitol.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.5 mg/mL. Concentration is measured by UV-Vis.

Data



SDS-PAGE analysis of Human GADD45A proteins, 2 µg/lane of Recombinant Human GADD45A proteins was resolved with SDS-PAGE under reducing conditions, showing bands at 23 kDa.

Background

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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.