Data Sheet (Cat.No.TMPY-03655)

TargetMol

GADD45G Protein, Human, Recombinant

General Information

Synonyms:	GADD45γ;growth arrest and DNA-damage-inducible, γ;DDIT2;growth arrest and DNA-damage-inducible, gamma;GRP17;GADD45gamma;CR6
Protein Construction:	A DNA sequence encoding human GADD45G (O95257) (Met1-Glu159) was expressed. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	O95257
Molecular Weight:	17.1 kDa (predicted); 17 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

GADD45G, also known as CR6, is part of the nuclear proteins to interact with various proteins whose transcript levels are raised after stressful growth arrest conditions and treatment with DNA-damaging agents. GADD45G reacts to environmental stresses by mediating activation of the p38/JNK pathway which is mediated through their protein binding and activating MTK1/MEKK4 kinase, which is an upstream activator of both p38 and JNK MAPKs.

GADD45G acts as a new-age tumor suppressor however is being frequently inactivated epigenetically in multiple tumors. GADD45G mRNA expression is down-regulated in hepatocellular carcinoma. GADD45G causes cell cycle arrest at G2/M transition when transfected into Hep-G2 cells. GADD45G induction by androgens involves new protein synthesis. Overexpression of GADD45G inhibits cell growth and causes morphological modifications in prostate cell lines thus GADD45G takes part in differentiation induction by androgens.

Reference

Takekawa M. et al., 1998, Cell. 95 (4): 521-30.
Suzuki M. et al., 1999, J Hum Genet. 44 (5): 300-3.
Azam N. et al., 2001, J Biol Chem. 276 (4): 2766-74.