Human Uracil-DNA glycosylase / UNG Protein (GST Tag)

Catalog Number: **12939-H09E**

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General Information

Gene Name Synonym:

DGU; HIGM4; HIGM5; UDG; UNG1; UNG15; UNG2; UNG1; UNG2

Protein Construction:

A DNA sequence encoding the human UNG isoform 1 (P13051-2) (Phe 85-Leu 304) was fused with the GST tag at the N-terminus.

Source: Human

Expression Host: E. coli

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Met

Molecular Mass:

The recombinant human UNG/GST chimera consists of 452 amino acids and has a predicted molecular mass of 52 kDa. It migrates as an approxiamtely 48 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 40mM Tris, 0.15M NaCl, 2mM GSH, pH 7.5

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

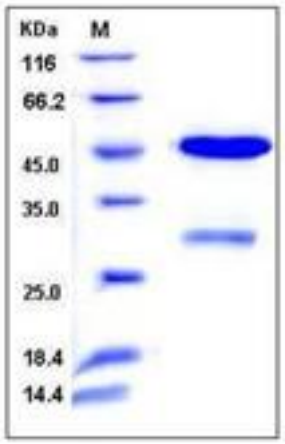
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Isoform 1 is widely expressed with the highest expression in skeletal muscle, heart and testicles. Isoform 2 has the highest expression levels in tissues containing proliferating cells. Uracil-DNA glycosylase exists in two forms: mitochondrial uracil-DNA glycosylase 1 (UNG1) and nuclear uracil-DNA glycosylase 2 (UNG2). uracil-DNA glycosylase. This gene encodes one of several uracil-DNA glycosylases. One important function of uracil-DNA glycosylases is to prevent mutagenesis by eliminating uracil from DNA molecules by cleaving the N-glycosylic bond and initiating the base-excision repair (BER) pathway. Uracil bases occur from cytosine deamination or misincorporation of dUMP residues. Alternative promoter usage and splicing of this gene leads to two different isoforms: the mitochondrial UNG1 and the nuclear UNG2. The UNG2 term was used as a previous symbol for the CCNO gene (GeneID 10309), which has been confused with this gene, in the literature and some databases. Defects in UNG are a cause of immunodeficiency with hyper-IgM type 5 (HIGM5). A rare immunodeficiency syndrome characterized by normal or elevated serum IgM levels with absence of IgG, IgA, and IgE. It results in a profound susceptibility to bacterial infections.

References

1.Akbari M, *et al.* (2007) Different organization of base excision repair of uracil in DNA in nuclei and mitochondria and selective upregulation of mitochondrial uracil-DNA glycosylase after oxidative stress. Neuroscience. 145(4):1201-12.
2.Slupphaug G, *et al.* (1996) Properties of a recombinant human uracil-DNA glycosylase from the UNG gene and evidence that UNG encodes the major uracil-DNA glycosylase. Biochemistry. 34(1): 128-38.
3.Pytel D, *et al.* (2008) Uracil-DNA glycosylases. Postepy Biochem. 54(4): 362-70.