Human MKI67 Protein (GST Tag)

Catalog Number: **13180-H09E**

General Information

Gene Name Synonym:

KIA; MIB-; MIB-1; PPP1R105

Protein Construction:

A DNA sequence encoding the mature form of human MKI67 (P46013-2) (Met1-Pro120) was fused with the GST tag at the N-terminus.

Source: Human

Expression Host: E. coli

QC Testing

Purity: > 80 % 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 MKI67 /GST chimera consists of 354 amino acids and has a predicted molecular mass of 41 kDa. It migrates as an approximately 37-41 KDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

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:

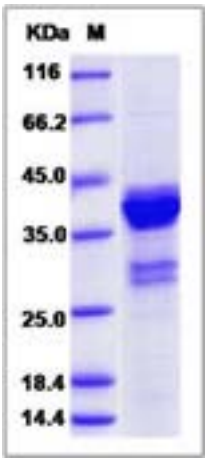
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

MKI67 contains 1 FHA domain and plays a key role in cell proliferation. During interphase, the MKI67 antigen can be exclusively detected within the cell nucleus, whereas in mitosis most of the protein is relocated to the surface of the chromosomes. MKI67 protein is present during all active phases of the cell cycle (G1, S, G2, and mitosis), but is absent from resting cells. MKI67 is an excellent marker to determine the growth fraction of a given cell population. The fraction of MKI67-positive tumor cells is often correlated with the clinical course of cancer. It is also associated with ribosomal RNA transcription. Inactivation of antigen MKI67 leads to inhibition of ribosomal RNA synthesis.The MKI67 protein is a nuclear and nucleolar protein, which is tightly associated with somatic cell proliferation. Antibodies raised against the human MKI67 protein paved the way for the immunohistological assessment of cell proliferation, particularly useful in numerous studies on the prognostic value of cell growth in clinical samples of human neoplasms. MKI67 protein expression is an absolute requirement for progression through the cell-division cycle. Recently, MKI67 is proved be an independent prognostic factor for disease-free survival (HR 1.05-1.72) in multivariate analyses studies using samples from randomized clinical trials with secondary central analysis of the biomarker. MKI67 was not found to be predictive for long-term follow-up after chemotherapy. Nevertheless, high KI-67 was found to be associated with immediate pathological complete response in the neoadjuvant setting, with an LOE of II-B. MKI67 could be considered as a prognostic biomarker for therapeutic decision.

References

1.Rahmanzadeh R, *et al.* (2007) Chromophore-assisted light inactivation of pKi-67 leads to inhibition of ribosomal RNA synthesis. Cell Prolif. 40(3):422-30. 2.Bullwinkel J, *et al.* (2006) Ki-67 protein is associated with ribosomal RNA transcription in quiescent and proliferating cells. J Cell Physiol. 206(3):624-35. 3.Schonk DM, *et al.* (1989) Assignment of the gene(s) involved in the expression of the proliferation-related Ki-67 antigen to human chromosome 10. Hum Genet. 83(3):297-9.