Data Sheet (Cat.No.TMPY-03341)

TargetMol

ASF1B Protein, Human, Recombinant (His)

General Information

Synonyms:	anti-silencing function 1B histone chaperone;CIA-II
Protein Construction:	A DNA sequence encoding the human ASF1B (Q9NVP2) (Met 1-Ile202) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Met 1
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q9NVP2
Molecular Weight:	23.88 kDa (predicted); 20 kDa (reducing condition, due to glycosylation)

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:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 500 mM NaCl, pH 7.4, 10% glycerol. 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

The histone chaperone anti-silencing factor 1a (ASF1a) interacts with MDC1 and is recruited to sites of DSBs to facilitate the interaction of phospho-ATM with MDC1 and phosphorylation of MDC1, which are required for the recruitment of RNF8/RNF168 histone ubiquitin ligases. Thus, ASF1a deficiency reduces histone ubiquitination at DSBs, decreasing the recruitment of 53BP1, and decreases NHEJ, rendering cells more sensitive to DSBs. This role of ASF1a in DSB repair cannot be provided by the closely related ASF1b and does not require its histone chaperone

activity. Homozygous deletion of ASF1A is seen in 10%-15% of certain cancers, suggesting that loss of NHEJ may be selected in some malignancies and that the deletion can be used as a molecular biomarker for cancers susceptible to radiotherapy or to DSB-inducing chemotherapy. Anti-silencing function 1 (ASF1) is a histone H3-H4 chaperone involved in DNA replication and repair, and transcriptional regulation. Here, we identify ASF1B, the mammalian paralog to ASF1, as a proliferation-inducing histone chaperone in human β-cells. Overexpression of ASF1B led to distinct transcriptional signatures consistent with increased cellular proliferation and reduced cellular death.

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