Data Sheet (Cat.No.TMPY-01713)

TargetMol

RbAp48 Protein, Human, Recombinant (His)

General Information

Synonyms:	retinoblastoma binding protein 4;NURF55;RBAP48;lin-53
Protein Construction:	A DNA sequence encoding the full length of human RBBP4 (NP_005601.1) (Met 1-Ser 425) was expressed, with a polyhistidine tag at the N-terminus. Predicted N terminal: His
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q09028-1
Molecular Weight:	50 kDa (predicted); 50 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:	> 85 % 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 50 mM Tris, 100 mM NaCl, 0.5 mM TCEP, 10% glycerol, 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

Histone-binding protein RBBP4, also known as Retinoblastoma-binding protein 4, Retinoblastoma-binding protein p48, Chromatin assembly factor 1 subunit C, Chromatin assembly factor I p48 subunit, Nucleosome-remodeling factor subunit RBAP48 and RBBP4, is a nucleus protein which belongs to the WD repeat RBAP46/RBAP48/MSI1 family. RBBP4 is a core histone-binding subunit that may target chromatin assembly factors, chromatin remodeling factors and histone deacetylases to their histone substrates in a manner that is regulated by

nucleosomal DNA. RBBP4 is a component of several complexes which regulate chromatin metabolism. These include the chromatin assembly factor 1 (CAF-1) complex, which is required for chromatin assembly following DNA replication and DNA repair; the core histone deacetylase (HDAC) complex, which promotes histone deacetylation and consequent transcriptional repression; the nucleosome remodeling and histone deacetylase complex (the NuRD complex), which promotes transcriptional repression by histone deacetylation and nucleosome remodeling and the NURF (nucleosome remodeling factor) complex. One common myth is that age-related memory loss is an early indication of Alzheimer's disease. But researchers at the Columbia University Medical Center in New York City have found a specific protein, RbAp48, that they believe is responsible for age-related memory problems. What's more, by replenishing RbAp48 in the brains of mice, the researchers were able to undo existing age-related memory damage. To find RbAp48, researchers focused on the hippocampus, the region of the brain where memories are formed. After studying eight healthy brains donated to science by people between the ages of 33 and 88, they found that RbAp48 was reduced by nearly 5 percent in the older brains. The researchers found that when they turned off RbAp48 in younger mice, they became more forgetful, while increasing RbAp48 in older mice restored memory. The mice were given memory tests that included object recognition and water maze problems.

Reference

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