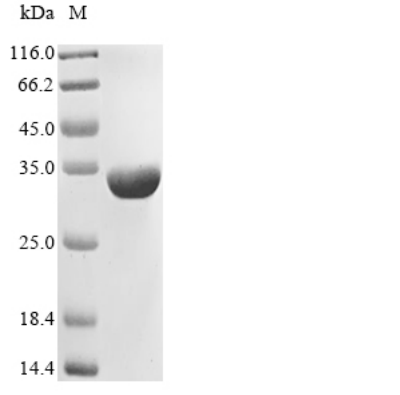
Recombinant Nostoc sp. All1616 protein (all1616)

Product Code	CSB-EP2964FUZa0
Abbreviation	Recombinant Nostoc sp. All1616 protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q8YWJ7
Product Type	Recombinant Proteins
Immunogen Species	Nostoc sp. (strain PCC 7120 / SAG 25.82 / UTEX 2576)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	MRWVDDSYLLPAAKGLMSTSVPNTYAKLAKALLINYSFDLSGYHVDELVNRW QKQYPADWLHLAVIEALYQGRYKAISVQQLLAFWQRRGQEIYHFNMEFERLIC SKFPESLTPMAASEQYSRQGKNQNQTLQLMSFKQQEQVKEEEEPPTEKMLAL SSTSVTASIEVSVSQQEDYLGQPFSLNPDISTKLLPISVTHPPIGQFTPQTSDRS ESFTSKLKAISNENS
Research Area	Others
Source	E.coli
Target Names	all1616
Expression Region	1-227aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	31.9 kDa
Protein Length	Full Length
Image	 (Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.
Description	Recombinant Nostoc sp. All1616 protein is produced in E. coli with an N-

terminal 6xHis-tag for easy purification and detection. The protein consists of the full-length sequence from amino acids 1 to 227. Its purity exceeds 85%, as confirmed by SDS-PAGE analysis, ensuring reliable performance in research applications. The product is provided with a low endotoxin level, making it suitable for various in vitro studies.

The All1616 protein from Nostoc sp. appears to play a role in the metabolic pathways of cyanobacteria, which may be crucial for understanding photosynthetic processes. As a component of these pathways, it could be integral to studies focusing on the biochemical and physiological functions of cyanobacteria. This might offer insights into broader biological processes related to energy conversion and environmental adaptation.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Protein-Protein Interaction Studies Using His-Tag Pull-Down Assays

The N-terminal 6xHis tag allows immobilization of the all1616 protein on nickel-affinity resins for pull-down experiments. This approach can identify potential binding partners from Nostoc sp. cell lysates or other cyanobacterial protein extracts. The 85% purity level seems sufficient for interaction studies, since contaminating proteins can be distinguished from specific interactors through appropriate controls. Such experiments might provide insights into the functional networks involving all1616 in cyanobacterial cellular processes.

2. Antibody Development and Validation

The recombinant all1616 protein can serve as an immunogen for generating polyclonal or monoclonal antibodies specific to this Nostoc sp. protein. The 85% purity appears adequate for immunization protocols. The His-tag can help with protein purification for antibody production. Generated antibodies could be validated using the recombinant protein in Western blot, ELISA, or immunofluorescence applications. These antibodies would likely be valuable research tools for studying all1616 expression and localization in cyanobacterial systems.

3. Biochemical Characterization and Stability Studies

The purified recombinant protein makes systematic biochemical analysis possible, including thermal stability profiling, pH tolerance, and buffer optimization studies. Size exclusion chromatography can determine the oligomerization state of all1616 under various conditions. Dynamic light scattering experiments may assess protein aggregation and monodispersity across different environmental conditions. These studies would establish fundamental biochemical properties that seem essential for understanding

all1616 function in Nostoc sp.

4. Comparative Proteomics and Cross-Species Analysis

Researchers can use the recombinant all1616 protein as a reference standard in comparative proteomics studies examining cyanobacterial protein expression under different growth conditions. The His-tagged protein allows quantitative analysis through tag-specific detection methods. Cross-reactivity studies with related proteins from other cyanobacterial species might reveal evolutionary conservation patterns. Such comparative approaches would likely contribute to understanding the broader biological significance of all1616 across cyanobacterial lineages.

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