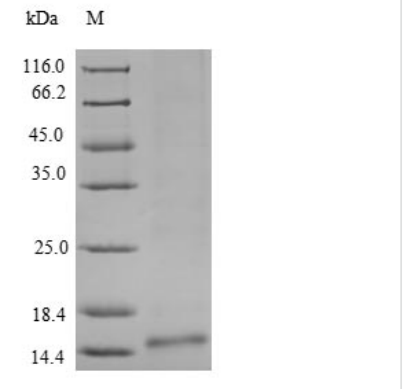
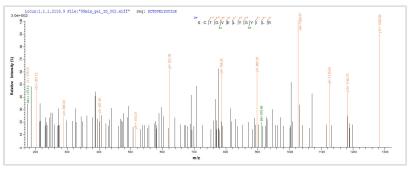
Recombinant Ceratopteris richardii Cyanovirin-N homolog

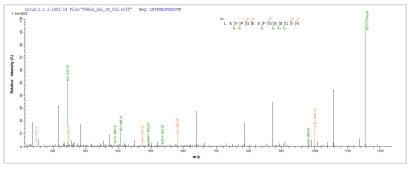
Product Code	CSB-YP309974CGP
Relevance	Mannose-binding lectin
Abbreviation	Recombinant Ceratopteris richardii Cyanovirin-N homolog protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the 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.	P86326
Product Type	Recombinant Proteins
Immunogen Species	Ceratopteris richardii (Triangle waterfern)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	QCNFANSCTGVELYGYILRGDCINEDGHPHATSINLNYYIGNDNGRLEYPGESFGSSCVKTALNDGHTLTASCKGADGQYHDSSMDLNYVVGNSYGYMEPCRASNADHVLKSSSE
Research Area	Others
Source	Yeast
Target Names	N/A
Protein Names	Recommended name: Cyanovirin-N homolog Short name= CV-N homolog
Expression Region	28-142aa
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	14.4kDa
Protein Length	Full Length of Mature Protein
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



Based on the SEQUEST from database of Yeast host and target protein, the LC-MS/MS Analysis result of CSB-YP309974CGP could indicate that this peptide derived from Yeast-expressed Ceratopteris richardii (Triangle waterfern) Cyanovirin-N homolog.



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Description

Recombinant Ceratopteris richardii Cyanovirin-N homolog gets expressed in a yeast system and includes the full mature protein from amino acids 28 to 142. The product comes with an N-terminal 6xHis-tag that makes purification and detection more straightforward. SDS-PAGE analysis shows it reaches a purity level greater than 90%, which appears suitable for various research applications. This protein is meant for research use only and isn't intended for therapeutic or diagnostic purposes.

Cyanovirin-N homolog is a protein that seems particularly good at binding specific sugar molecules—a property that may influence various biological processes. Scientists study proteins in the Cyanovirin-N family mainly for their roles in carbohydrate recognition and binding pathways. This makes them quite interesting for research areas that focus on molecular interactions and the development of new biotechnological applications.

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. Lectin-Carbohydrate Interaction Studies

Researchers can use this recombinant protein to investigate how cyanovirin-N homologs from plant species bind carbohydrates. The N-terminal 6xHis tag allows for purification and immobilization in glycan array screening or surface plasmon resonance experiments. Scientists might compare how this fern-derived homolog binds compared to known cyanovirin-N proteins, which could help us understand how lectin domains have stayed conserved through evolution. The high purity (>90%) likely makes it suitable for quantitative binding assays and kinetic measurements.

2. Protein-Protein Interaction Mapping

That 6xHis tag makes pull-down assays much easier when researchers want to identify potential binding partners of this cyanovirin-N homolog in plant cell lysates or recombinant protein libraries. Co-immunoprecipitation experiments can work with anti-His antibodies to capture protein complexes. Since it's recombinant, researchers get controlled interaction studies without interference from other cellular components. This approach might reveal novel protein networks involving cyanovirin-N-like proteins in fern biology—though that remains to be seen.

3. Structural and Biophysical Characterization

The purified recombinant protein provides material for structural studies like X-ray crystallography, NMR spectroscopy, or cryo-electron microscopy. Techniques such as circular dichroism spectroscopy can assess secondary structure content and thermal stability. Yeast expression systems typically produce properly folded eukaryotic proteins that work well for structural analysis. Comparing structures with other cyanovirin-N family members could illuminate structure-function relationships across species.

4. Antibody Development and Immunoassay Applications

This recombinant protein can work as an immunogen for generating polyclonal or monoclonal antibodies specific to Ceratopteris richardii cyanovirin-N homolog. The 6xHis tag allows development of sandwich ELISA formats using anti-His detection antibodies. Generated antibodies could then be used for Western blotting, immunofluorescence, or immunohistochemistry studies in fern tissues. The high purity should minimize cross-reactivity during antibody production and subsequent immunoassays.

Shelf Life

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