

Synonym

Noggin,NOG,SYM1,SYNS1

Source

Human Noggin Protein, premium grade(NON-H5219) is expressed from human 293 cells (HEK293). It contains AA Gln 28 - Cys 232 (Accession # [Q13253-1](#)). Predicted N-terminus: Gln 28

It is produced under our rigorous quality control system that incorporates a comprehensive set of tests including sterility and endotoxin tests. Product performance is carefully validated and tested for compatibility for cell culture use or any other applications in the early preclinical stage. When ready to transition into later clinical phases, we also offer a custom GMP protein service that tailors to your needs. We will work with you to customize and develop a GMP-grade product in accordance with your requests that also meets the requirements for raw and ancillary materials use in cell manufacturing of cell-based therapies.

Molecular Characterization

Noggin(Gln 28 - Cys 232)
Q13253-1

This protein carries no "tag".

The protein has a calculated MW of 23.0 kDa. The protein migrates as 27-30 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 0.1 EU per µg by the LAL method.

Sterility

The sterility testing was performed by membrane filtration method.

Purity

>90% as determined by SDS-PAGE.

>95% as determined by SEC-HPLC.

Formulation

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

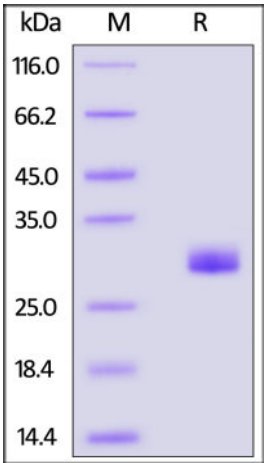
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

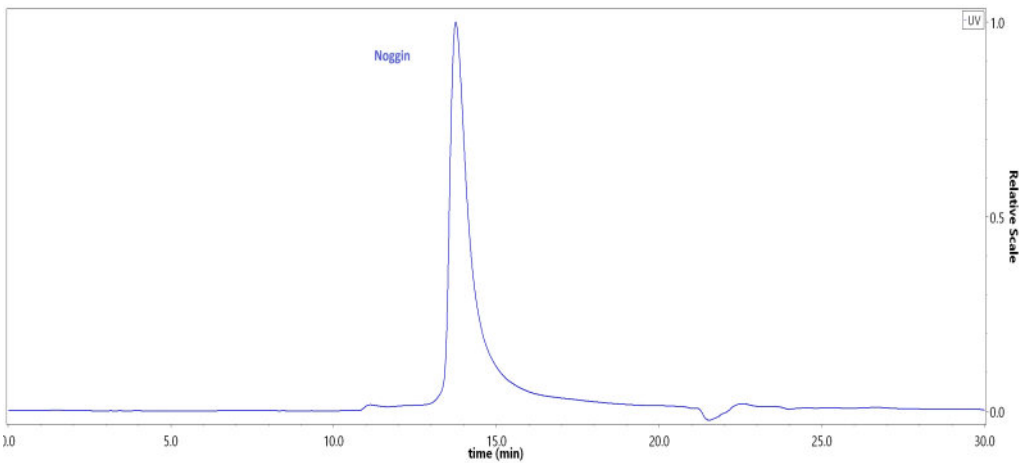
- 20°C to -70°C for 12 months in lyophilized state;
- 70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



Human Noggin Protein, premium grade on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90%.

SEC-HPLC



The purity of Human Noggin Protein, premium grade (Cat. No. NON-H5219) was greater than 95% as determined by SEC-HPLC.

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Background

Noggin is also known as NOG, SYM1, SYNS1 and is a secreted homodimeric glycoprotein whose scaffold contains a cystine-knot topology similar to that of BMPs. Secreted Noggin probably remains close to the cell surface due to its binding of heparin-containing proteoglycans. Noggin inhibits TGF- β signal transduction by binding to TGF- β family ligands and preventing them from binding to their corresponding receptors. Noggin plays a key role in neural induction by inhibiting BMP4, along with other TGF- β signaling inhibitors such as chordin and follistatin. Mouse knockout experiments have demonstrated that noggin also plays a crucial role in bone development, joint formation, and neural tube fusion. During embryogenesis, Noggin antagonizes specific BMPs at defined times, for example, during neural tube, somite and cardiomyocyte growth and patterning. During skeletal development, Noggin prevents chondrocyte hyperplasia, thus allowing proper formation of joints. During culture of human embryonic stem cells (hESC) or neural stem cells under certain conditions, addition of Noggin to antagonize BMP activity may allow stem cells to proliferate while maintaining their undifferentiated state, or alternatively, to differentiate into dopaminergic neurons. Noggin also appears to maintain adult stem cell populations in vivo, for example, maintaining neural stem cells within the hippocampus.

Clinical and Translational Updates

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