

## Datasheet

# Noggin

## Murine Recombinant

Product	Description	Catalogue-No.	Size
Noggin	Growth Factor, murine recombinant	CB-1600020	20 µg

### Product description

Synonyms: Noggin, SYM1, SYNS1, NOG

Noggin is a secreted polypeptide, which is encoded by the NOG gene. It binds and inactivates members of the TGF-beta (transforming growth factor-beta) superfamily signaling proteins, like the BMP4 (bone morphogenetic protein-4). It is suggested, that noggin plays a critical role in creating a morphogenetic gradient because of its efficient diffusion through extracellular matrices (more efficient than other members of the TGF-beta superfamily).

It appears, that Noggin has a pleiotropic effect, as well in early as in later stages of the development. Its first isolation was from *Xenopus*, because of its inhibitory action of BMP4, and thus its ability to restore a normal dorsal-ventral body axis in artificially (by UV treatment) ventralized embryos.

The results of mouse knock out of noggin show that it is involved in numerous developmental processes such as neural tube fusion and joint formation. Heterozygous missense mutations in the noggin gene can cause deformities such as joint fusions and syndromes such as SYNS1 (multiple synostosis syndrome) and SYM1 (proximal symphalangism). Noggin mouse rec. is a non-glycosylated, non-disulfide-linked homodimer consisting of two 206 amino acid polypeptide chains, produced in *E.coli*, and has a total molecular weight of approximately 46.2 kDa. It is purified by proprietary chromatographic techniques.

### Solubility and storage conditions

It is recommended to be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in 10mM Acetic acid to a concentration of 0.1-1.0 mg/mL. Further dilutions should be made in appropriate buffered solutions.

Lyophilized murine noggin although stable at room temperature for 3 weeks, should be stored desiccated below -20 °C. Upon reconstitution murine noggin should be stored at 2 – 8 °C between 2-7 days and for future use below -18°C.

For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Please prevent freeze-thaw cycles.

### Composition

Amino acid sequence: MQHYLHIRPAPSDNPLVLDLIEHPDPIFDPKKDLNETLLRSLGHHYDPPGFM  
ATSPPEDRPGGGGGPAGGAEDLAELDQLLRQPSGAMPSEIKGLEFSEGL  
AQGKKQRLSKKLRRKLMWLWSQTFCPVLYAWNDLGSRFWPRYVKVGSFC  
SKRSCSVPEGMVCKPSKSVHLTVLRWRCQRRGQRCGWIPYIPISECKCSC

Purity: <95.0% determined by SDS-Page

Biological activity: The ED<sub>50</sub> as determined by its ability to inhibit 5.0 ng/ml of BMP4 induced alkaline phosphatase production by ATDC-5 chondrogenic cells. The expected effect is 1 – 2 ng/ml of noggin, corresponding to a specific activity of 500'000 – 1'000'000 units/mg

### Suitability

FOR RESEARCH USE ONLY!

Not approved for human or animal diagnostic or therapeutic procedures.

### Technical Support

For technical support, questions or remarks please contact your local PAN-Biotech partner or the technical department of PAN-Biotech via email ([info@pan-biotech.com](mailto:info@pan-biotech.com)) or phone +49-8543-601630.