Hexa-N-acetylchitohexaose

Item No. 17864

CAS Registry No.: 38854-46-5

Synonyms: N-Acetylchitohexaose, NACOS-6

MF: C_{48}H_{80}N_{6}O_{31}
FW: 1,237.2
Purity: ≥95%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid

Laboratory Procedures

For long term storage, we suggest that hexa-N-acetylchitohexaose be stored as supplied at -20°C. It should be stable for at least two years.

Hexa-N-acetylchitohexaose is supplied as a crystalline solid. Hexa-N-acetylchitohexaose is sparingly soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. For biological experiments, we suggest that organic solvent-free aqueous solutions of hexa-N-acetylchitohexaose be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of hexa-N-acetylchitohexaose in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Hexa-N-acetylchitohexaose is a hexamer of N-acetylglucosamine, a subunit of the natural polymer chitin. It functions as an elicitor in plants, inducing the expression of chitinases.\(^1,2\) Like chitin and some of its derivatives, hexa-N-acetylchitohexaose is a substrate of lysozyme.\(^3\) It also binds LysM domains on certain proteins, including an endopeptidase of \(T.~thermophilus\).\(^4\) Hexa-N-acetylchitohexaose heightens the immune response against \(Pseudomonas\) and \(Listeria\) in mice, stimulates cytokine secretion in mesenchymal stem cells, and inhibits nitric oxide production by activated macrophages.\(^5-8\)

References