Creative Enzymes®

Polysialic acid

Cat. No. CEFX-280

Lot. No. (See product label)

Introduction

Description

Polysialic acid is a class of linear, homogeneous polymeric α-2,8 and/or α-2,9 glycosidically linked linear polymers, which are mainly attached to vertebrate nervous system neural cell adhesion molecule (NCAM) through typical glycosidic bonds. Polysialic acid plays a key role in neural development by modifying the adhesion of NCAM to regulate neuronal cell development, neural guidance, and synapse formation. Polysialic acid is a white, indeterminate polymer that is easily degraded to monomeric sialic acid in the presence of acid. Polysialic acid has excellent water solubility, low viscosity, good biocompatibility, and can be degraded in living organisms. In recent years, polysialic acid has been highly sought after in the fields of medicine, food additives and cosmetics, and has a promising market prospect.

Applications

Neural Regeneration Polysialic acid plays a key role in nerve regeneration, especially during embryonic development and growth. It is found in high levels in the vertebrate brain and central nervous system and is involved in cell migration, axon guidance, synapse formation and functional plasticity of the nervous system. Polysialic acid is considered an ideal scaffolding material in nerve repair surgery to accelerate healing of nerve trauma. Extended Drug Half-Life Polysialic acid is able to prolong the half-life of drugs in the bloodstream, improve drug solubility and stability, reduce the frequency of administration, and decrease the immunogenicity and antigenicity of drugs due to its high hydrophilicity and the absence of receptors in the organism. Polysialylated asparaginase, interferon and insulin have been used in clinical trials and are superior to PEGylated interferon. Transportation Carriers Polysialic acid is biodegradable and non-toxic upon decomposition. Its unique T-independent antigenic properties prevent it from inducing immune memory, making it suitable for use as a transport carrier for small molecule drugs or enzymes, improving drug stability and reducing immunogenicity in the blood. Moisturizing and Tissue Repair Polysialic acid is used as a moisturizer in the cosmetic industry and helps repair damaged tissue.

Product Information

Appearance White fluffy powder

Form powder

Purity 99%

Usage and Packaging

Package 1kg/bag

Storage and Shipping Information

Storage

The product may be stored for at least 24 months from the date of manufacture in its sealed container under normal temperatures in a dry and enclosed environment. Keep container tightly closed.