9051 Mira Mesa Blvd, #910094
San Diego, CA 92191
Tel: 760-390-3989

NEFH Bovine

Neurofilament Heavy Chain Bovine
NTP0044

Product Overview

Name	NEFH Bovine

Description

Neurofilament Heavy Chain Bovine

Synonyms

Neurofilament light polypeptide, NF-L, NEFL, NF68, NFL, 68 kDa neurofilament protein.

Source

Bovine spinal cord.

Physical Appearance

Filtered White lyophilized (freeze-dried) powder.

Formulation

NEFH was lyophilized from a 1mg/ml solution containing 10mM sodium phosphate buffer pH 7.5, 6M urea, 1mM EDTA, 2mM DTT and 10mM methylammonium chloride.

Stability

Store the lyophilized NEFH between 2-8°C, do not freeze. Upon reconstitution NEFH should be stored at -20°C. Please prevent freeze-thaw cycles.

Purity

Greater than 95.0% as determined by SDS-PAGE.

Solubility

It is recommended to reconstitute the lyophilized NEFH in sterile 18MΩ-cm H2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Background

Neurofilament heavy chain (NEFH) is a vital structural protein in neurons, predominantly found in the central and peripheral nervous systems. Although extensive research has been conducted on NEFH in humans and rodents, the investigation of NEFH in bovine nervous tissues presents an emerging area with substantial potential for advancing our understanding of neuronal biology in larger mammals and its applications in veterinary medicine and neurobiology. Bovine nervous tissues, including the brain and spinal cord, are of particular interest due to their relevance in cattle health, neuroscience, and the food industry. This research aims to provide a comprehensive exploration of NEFH in bovine nervous tissues, elucidating its functions, structural significance, and potential applications. The primary

objective of this research is to elucidate the role of NEFH in bovine nervous tissues, particularly in maintaining neuronal structural integrity and axonal function. In vitro and ex vivo experiments, utilizing bovine neuronal cell cultures and tissue specimens, will be conducted to investigate how NEFH contributes to neuronal morphology, axonal transport, and overall neuronal resilience. Understanding these mechanisms is fundamental for deciphering the complexities of neuronal biology in bovine species. The second objective is to assess the relevance of bovine NEFH in veterinary medicine. Studies involving bovine models will be conducted to evaluate the impact of NEFH mutations or variations on neuronal health, disease susceptibility, and neurodegenerative conditions. These investigations may provide valuable insights into potential applications in cattle health, the development of diagnostic tools for neurological disorders, and strategies for enhancing animal welfare. The third objective is to explore the potential applications of bovine NEFH in neurobiology and biotechnology. Research will investigate the use of bovine NEFH-expressing cells as models for studying neuronal-related diseases and for developing tissue engineering approaches in veterinary medicine and biotechnology. By delving into the functions and roles of NEFH in bovine nervous tissues, this research aims to expand our knowledge of neuronal biology, its implications for veterinary medicine, and its potential applications in neurobiology, cattle health, and biotechnology.

Precautions

NEFH Bovine is for research use only and not for use in diagnostic or therapeutic procedures.

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