

## NEFL Bovine

### *Neurofilament Light Bovine*

NTP0045

## Product Overview

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|--------------------|----------------------------|
| <b>Name</b>        | NEFL Bovine                |
| <b>Description</b> | Neurofilament Light Bovine |

### Background

Neurofilament light chain (NEFL) is a critical component of the neuronal cytoskeleton, primarily found in neurons of the central and peripheral nervous systems. While extensive research has been conducted on NEFL in human and rodent models, the study of NEFL in bovine nervous tissues is an emerging area with potential for advancing our understanding of neuronal biology in larger mammals and its applications in veterinary medicine and neurobiology. Bovine nervous tissues, such as the brain and spinal cord, are of particular interest due to their relevance in cattle health and the food industry. This research aims to provide a comprehensive exploration of NEFL in bovine nervous tissues, elucidating its functions, structural significance, and potential applications. The primary objective of this research is to elucidate the role of NEFL in bovine nervous tissues, particularly in maintaining the structural integrity of neurons and axons. In vitro and ex vivo experiments, utilizing bovine neuronal cell cultures and tissue specimens, will be conducted to investigate how NEFL contributes to neuronal morphology, axonal transport, and 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 NEFL in veterinary medicine. Studies involving bovine models will be conducted to evaluate the impact of NEFL mutations or variations on neuronal health, disease susceptibility, and neurodegenerative conditions. These investigations may provide valuable insights into potential applications in cattle health and the development of diagnostic tools for neurological disorders. The third objective is to explore the potential applications of bovine NEFL in neurobiology and biotechnology. Research will investigate the use of bovine NEFL-expressing cells as models for studying neuronal-related diseases and for developing tissue engineering approaches for veterinary medicine and biotechnology. By delving into the functions and roles of NEFL 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 and cattle health.