Neurofilaments

Neurofilaments are the main cytoskeletal constituents in neuronal cells. They are important for maintaining the structural integrity and caliber of axons and dendrites thereby influencing the conduction velocity of nerve impulses. The neurofilament chains are divided into three groups according to their molecular size, neurofilament light (NF-L), neurofilament medium (NF-M), neurofilament heavy (NF-H). NF-L is the quantitatively most common filament with a molar ratio of 4:2:1 (NF-L : NF-M : NF-H). Phosphorylation of the C-terminal part of heavy and medium neurofilaments shows topological dependence, neurofilaments in axons are heavily phosphorylated, crosslinked and spatially organized, whereas neurofilaments found in neuronal body and in dendrites posse low degree of phosphorylation, the crosslinking level is low and their orientation is random.

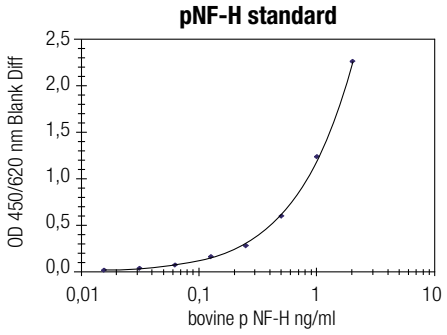
ELISA-VIDITEST pNF-H is intended to measure the concentration of phosphorylated forms of heavy neurofilaments in peripheral blood and cerebrospinal fluid. The ELISA uses sandwich of the mouse monoclonal antibody NF01 that binds to the phosphorylated epitopes on heavy neurofilaments and of mouse monoclonal antibody NF05 that reacts equally with phosphorylated and non-phosphorylated forms of heavy neurofilaments. Phosphorylated heavy neurofilaments were detected in higher concentrations in diseases that involve central nervous system damage (Shaw et al. 2005). The kit except the human pNF-H detects porcine, bovine and rat pNFH, but not mouse pNF-H.

ELISA-VIDITEST RUO

REF	Product	Method	Evaluation	Wells	Sample	Limit of detection
ODZ-437	pNF-H	ELISA	quant.	96	serum, plasma, cerebrospinal fluid	23 pg / mL

Why using ELISA-VIDITEST pNF-H:

- Sensitive and precise
- Quantitative data evaluation
- One-step ELISA - minimal hands-on time requirements
- No sample predilution before assay
- Incubation buffer that minimizes heterophile antibody interference



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- Porchet R, Probst A, Draberova E, Draber P, Riederer IM, Riederer BM.: Differential subcellular localization of phosphorylated neurofilament and tau proteins in degenerating neurons of the human entorhinal cortex. Neuroreport. 2003 May 23;14(7):929-33.