



Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

Store at +4C
#99175

PathScan® Neurofilament-L Sandwich ELISA Kit

1 Kit (96 assays)

Species Cross Reactivity: M R
UniProt ID: #P07196
Entrez-Gene Id: #4747

For Research Use Only. Not for Use in Diagnostic Procedures.

| Product Includes | Product # | Quantity | Color | Storage Temp |
|---|-----------|----------|---------------------|--------------|
| Neurofilament-L Mouse mAb Coated Microwells | 46007 | 96 tests | | +4C |
| Neurofilament-L Rabbit Detection mAb | 88902 | 1 ea | Green (Lyophilized) | +4C |
| Anti-rabbit IgG, HRP-linked Antibody (ELISA Formulated) | 13272 | 1 ea | Red (Lyophilized) | +4C |
| Detection Antibody Diluent | 13339 | 11 ml | Green | +4C |
| HRP Diluent | 13515 | 11 ml | Red | +4C |
| TMB Substrate | 7004 | 11 ml | | +4C |
| STOP Solution | 7002 | 11 ml | | +4C |
| Sealing Tape | 54503 | 2 ea | | +4C |
| ELISA Wash Buffer (20X) | 9801 | 25 ml | | +4C |
| ELISA Sample Diluent | 11083 | 25 ml | Blue | +4C |
| Cell Lysis Buffer (10X) | 9803 | 15 ml | | -20C |

Kit contents scale proportionally with size, except sealing tape.

Example: The V1 kit contains 5X the listed quantities above, but will exclude the sealing tape.

The microwell plate is supplied as 12 8-well modules - Each module is designed to break apart for 8 tests.

Description

The PathScan® Neurofilament-L Sandwich ELISA Kit is a solid phase sandwich enzyme-linked immunosorbent assay (ELISA) that detects endogenous levels of neurofilament-L protein. A neurofilament-L mouse mAb has been coated onto the microwells. After incubation with cell lysates, the neurofilament-L proteins are captured by the coated antibody. Following extensive washing, an neurofilament-L rabbit detection mAb is added to detect captured neurofilament-L proteins. Anti-rabbit IgG, HRP-linked antibody is then used to recognize the bound detection antibody. HRP substrate, TMB, is added to develop color. The magnitude of absorbance for the developed color is proportional to the quantity of neurofilament-L protein.

*Antibodies in this kit are custom formulations specific to kit.

Specificity/Sensitivity

PathScan® Neurofilament-L Sandwich ELISA Kit detects endogenous levels of neurofilament-L protein in mouse or rat brains, as shown in Figure 1. The kit sensitivity is shown in Figure 2. This kit detects proteins from the indicated species, as determined through in-house testing, but may also detect homologous proteins from other species.

Background

The cytoskeleton consists of three types of cytosolic fibers: actin microfilaments, intermediate filaments, and microtubules. Neurofilaments are the major intermediate filaments found in neurons and consist of light (NFL), medium (NFM), and heavy (NFH) subunits (1). Similar in structure to other intermediate filament proteins, neurofilaments have a globular amino-terminal head, a central α -helical rod domain, and a carboxy-terminal tail. A heterotetrameric unit (NFL-NFM and NFL-NFH) forms a protofilament, with eight protofilaments comprising the typical 10 nm intermediate filament (2). While neurofilaments are critical for radial axon growth and determine axon caliber, microtubules are involved in axon elongation. PKA phosphorylates the head domain of NFL and NFM to inhibit neurofilament assembly (3,4). Research studies have shown neurofilament accumulations in many human neurological disorders, including Parkinson's disease (in Lewy bodies along with α -synuclein), Alzheimer's disease, Charcot-Marie-Tooth disease, and Amyotrophic Lateral Sclerosis (ALS) (1).

Background References

1. Al-Chalabi, A. and Miller, C.C. (2003) *Bioessays* 25, 346-55.
 2. Cohlberg, J.A. et al. (1995) *J Biol Chem* 270, 9334-9.
 3. Hisanaga, S. et al. (1994) *Mol Biol Cell* 5, 161-72.
 4. Sihag, R.K. et al. (1999) *J Neurochem* 72, 491-9.
-

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

PathScan is a registered trademark of Cell Signaling Technology, Inc.

U.S. Patent No. 7,429,487, foreign equivalents, and child patents deriving therefrom.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.

