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NEW TEST UPDATE October 23, 2025

Neurofilament Light Chain (NfL), Plasma

The National Reference Laboratory is pleased to announce the introduction of in-house testing for **Neurofilament Light Chain (NfL)** in plasma. NfL is an intermediate filament protein found specifically in the neuronal cytoskeleton and is a biomarker of axonal injury and neurodegeneration.

NfL in plasma is measured using Chemiluminescent Enzyme Immunoassay (CLEIA). Significantly increased levels have been detected across various neurodegenerative and neuroinflammatory conditions. While elevated NfL is not specific to any one disease, it may serve as an indicator of disease activity, progression, or response to treatment within these disorders. **If levels are followed longitudinally, the same instrumentation and methodology should be used.**

The most common indications for measurement include:

1. In Multiple Sclerosis (MS), NfL reflects disease activity and risk of progression.
2. In suspected Alzheimer's disease (AD), NfL may assist with differential diagnosis e.g. frontotemporal dementia (FTD) in adults <70 years of age.
3. In Huntington's disease, NfL rises several years before the clinical onset and may be used to track disease progression.
4. In FTD and Amyotrophic Lateral Sclerosis (ALS), NfL correlates with disease severity and predicts rapid decline.
5. In Traumatic Brain Injury (TBI), NfL indicates injury severity and recovery potential.
6. In Spinal Muscular Atrophy, NfL is high in infants and can be used to monitor treatment effects.
7. In Parkinson's disease (PD) NfL is usually normal; marked elevations suggest atypical parkinsonian syndromes.

Limitations of the test:
Higher levels of NfL can occur in patients with a history of stroke, atrial fibrillation, myocardial infarction, chronic kidney disease, recent pregnancy and diabetes. Lower levels may be observed in people with a BMI of ≥ 30. NfL levels measured in the evening may be about 10% lower than those measured in the morning.

Testing is performed in-house using the **Fujirebio Lumipulse® G.**

Details for test ordering are listed below:

Test Name	**Neurofilament Light Chain (NfL), Plasma**
Order Code	2925034
Synonyms	NfL
Sample Type	Plasma
Container	EDTA Plasma (K_2-EDTA, Lavender Top)
Sample Volume	Minimum 2 mL
Transport Conditions	For samples received at the laboratory within 24 hours, transport at 2 to 8°C. For longer times, transport frozen (–20°C).
Storage & Stability	Stable for only 24 hours when refrigerated (2–8°C) and 14 days when frozen (-20°C) as an aliquot.
Turnaround Time	7 Days
Methodology	Lumipulse®, Chemiluminescent Enzyme Immunoassay (CLEIA)
Rejection Criteria	Samples other than K_2-EDTA plasma, insufficient volume, unlabelled containers.

For more information, please contact our **Technical Support Team** on CustomerCare@nrl.ae or 800-675.

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