Enhanced Liver Fibrosis (ELF) Score

CPT Code: 81517
Order Code: 10350
Alternative Name(s): Hyaluronic acid, HA, P3NP, PIIINP, Nonalcoholic Steatohepatitis, NASH, TIMP-1
ABN Requirement: No
Specimen: Serum
Volume: 1.0 mL
Minimum Volume: 0.5 mL
Container: Gel-barrier tube (SST)

Collection:

1. Collect and label sample according to standard protocols.
2. Gently invert tube 5 times immediately after draw. DO NOT SHAKE.
3. Allow blood to clot 30 minutes.
4. Centrifuge for 10 minutes.

Patient Preparation: Spin sample within two hours after collection.

Dietary supplements containing biotin may interfere in assays and may skew analyte results to be either falsely high or falsely low. For patients receiving the recommended daily doses of biotin, draw samples at least 8 hours following the last biotin supplementation. For patients on mega-doses of biotin supplements, draw samples at least 72 hours following the last biotin supplementation.

Samples with fluorescein may cause falsely depressed results. Evidence suggests that patients undergoing retinal fluorescein angiography can retain amounts of fluorescein in the body for up to 72 hours post-treatment.

Transport: Store serum at 2°C to 8°C after collection and ship the same day per packaging instructions included with the provided shipping box.

Stability:

Ambient (15-25°C): 2 days

Refrigerated (2-8°C): 7 days
Frozen (-20°C): 30 days

Causes for Rejection: Specimens other than serum; improper labeling; samples not stored properly; samples older than stability limits; gross hemolysis

Methodology: Chemiluminescent Immunoassay

Turn Around Time: 3-5 days

Reference Range: <9.80

ELF Score ranges and associated risk of disease progression (development of cirrhosis or liver-related events):

ELF Score	Risk of Disease Progression
<9.80	Lower
≥9.80 – <11.30	Mid
≥11.30	Higher

Clinical Significance: The Enhanced Liver Fibrosis (ELF) score predicts progression to cirrhosis and liver-related events in patients with advanced (F3 or F4) fibrosis due to NASH.

The ELF score is not for use in the diagnosis of NASH, the staging of fibrosis, the serial monitoring of disease progression, or the monitoring of effects of therapeutic products.

The ELF score is derived from an algorithm that combines measurements of PIIINP, TIMP-1, and HA. PIIINP (amino-terminal propeptide of type III procollagen) is a marker of early fibrogenesis and inflammation, TIMP-1 (tissue inhibitor of matrix metalloproteinase 1) is the circulating inhibitor of MMP enzymes that can enhance fibrogenesis, and HA (hyaluronic acid) is a glycosaminoglycan that is produced by hepatic stellate cells. Together, these assays measure qualitative and quantitative changes in the ECM (extracellular matrix). The ECM refers to a set of macromolecules that comprise the extracellular scaffolding of the liver. Some ECM markers reflect fibrogenesis and others reflect fibrosis regression, allowing for a dynamic evaluation of ECM activity.

The CPT codes provided are based on AMA guidelines and are for informational purposes only. CPT coding is the sole responsibility of the billing party. Please direct any questions regarding coding to the payer being billed.