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Your Comprehensive Solution

for Managing Chronic Liver Disease





As an innovator of solutions to help manage disease-specific states, Siemens Healthineers is the first company to provide a range of in vivo and in vitro diagnostic technologies for chronic liver disease patients. These solutions—engineered to efficiently and quickly provide vital clinical information—can help you diagnose patients faster and better monitor the efficacy of treatment.

Why is a range of solutions that span modalities important to you and your laboratory? It gives you access to the tests and technologies critical to diagnosing and managing patients with liver disease. It means you have more than one tool to help you do what you do best—care for patients.

From Detection to Ongoing Care

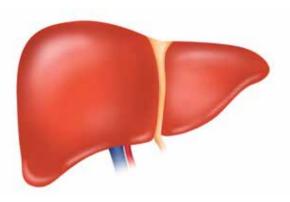
Liver disease comprises a spectrum of hepatic dysfunction. When disease is suspected, an accurate diagnosis is the key to developing and monitoring treatment strategies and providing long-term follow-up care. The complexities of optimizing patient care require in vivo and in vitro solutions, such as routine chemistry tests, hepatitis serology tests, viral load testing, genotyping, and ultrasound imaging.

As a leader in this field, Siemens Healthineers provides the tools you need to manage chronic liver disease patients today and is innovating leading-edge solutions such as noninvasive multimodality tools for assessment of liver fibrosis engineered to meet the evolving needs of your patients.

Siemens Healthineers offers expertise in diagnostic diseasestate management, with a comprehensive 900-application portfolio encompassing general chemistry, specific protein assays, immunoassay, and molecular technologies:

- Quality assays designated for point of detection, assessment, and monitoring of liver health strategies
- Technologies that provide a complete picture of the patient's overall health by providing vital information for improved clinical confidence
- Blood tests designed for optimized performance on Siemens Healthineers broad range of innovative laboratory solutions, including ADVIA® Clinical Chemistry Systems, ADVIA Centaur® Immunoassay Systems, Dimension® Integrated Chemistry Systems, BN™ Systems, and VERSANT® Molecular Systems®
- · Quality focus on efficiency, reliability, and accuracy





Accurate Diagnosis

Prevention and Early Detection

- Routine hepatitis tests
- Liver function tests

In vitro Diagnostics (IVD)

- Molecular viral load tests†
- Liver function tests
- Routine hepatitis tests
- Specific, minimally invasive liver fibrosis tests

In vivo Imaging (IVI)

 Ultrasound imaging and Virtual Touch™ applications† for quantitative assessment of liver fibrosis

Personalized Ongoing Care Therapy

tests

Viral load tests†

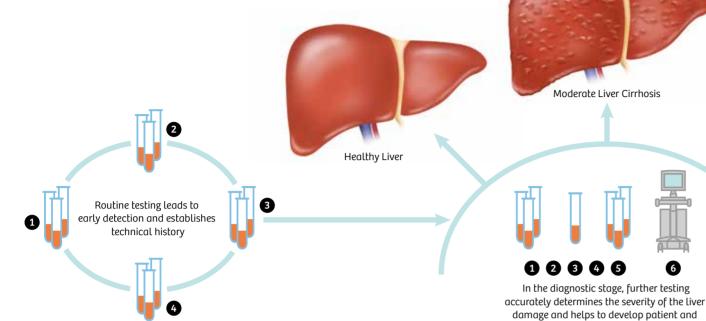
- Liver function tests
 HCV genotyping
- Routine hepatitis

 Routine hepatitis

 Routine hepatitis
 - Viral load tests[†]
 - Ultrasound imaging and Virtual Touch applications† for quantitative assessment of liver fibrosis

invasive liver fibrosis tests

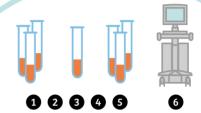
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Identify, diagnose, and manage your patient's chronic liver disease with Siemens Healthineers full range of in vivo and in vitro tools.



During the management and monitoring phase, patients are routinely tested to assess liver disease progression and/or effectiveness of therapeutic regimens



General Chemistry Tests

High-quality routine liver function chemistry tests

- Alanine Aminotransferase
- Aspartate Aminotransferase
- Alkaline Phosphatase
- Albumin
- Direct Bilirubin
- Lactate Dehydrogenase
- Total Bilirubin
- Total Protein

Systems

- ADVIA[®] 1200, 1800, 2400, **Clinical Chemistry Systems**
- ADVIA Centaur® XPT **Immunoassay System**
- Dimension® EXL™ Integrated **Chemistry Systems**
- Dimension Vista® Intelligent **Lab Systems**



Specific Plasma Protein Tests

Uncompromising performance for plasma protein analysis in liver disease

- Alpha-1-Acid Glycoprotein
- Alpha-1-Antitrypsin
- Carbohydrate-deficient Transferrin
- Immunoglobulin M
- Prealbumin
- Retinol-binding Protein
- Transferrin

Systems

- ADVIA 1200, 1800, 2400, **Clinical Chemistry Systems**
- ADVIA Centaur XPT **Immunoassay System**
- Dimension EXL systems
- Dimension Vista systems
- BN II systems
- BN ProSpec® System



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potential treatment strategies

Viral Hepatitis Immunoassays

Well-established, high-performance hepatitis A, B, and C assays

- Hepatitis A
- HAV Total
- HAV IgM
- Hepatitis B
- HBsAg - HBsAg II
- Anti-HBs
- HBc IgM - HBc Total
- HBeAg
- Anti-HBe†
- Quantitative HBsA*
- Hepatitis C
- HCV

Systems

- ADVIA Centaur CP, XP, XPT **Immunoassay Systems**



Molecular Viral Hepatitis Tests

Comprehensive molecular diagnostics solutions for management of viral hepatitis

Hepatitis B

- HBV DNA†
- Hepatitis C
- HCV RNA†
- HCV Genotyping:

Hepatitis E

- HEV RNA†

Systems

- VERSANT kPCR Molecular System
- VERSANT kPCR Sample Prepi
- Auto-LiPA 48 Genotyping Instrument
- AutoBlot 3000H Genotyping Instrument



Assessment of liver fibrosis can be optimized for your laboratory and patients with innovations engineered to solve your real-world challenges. Siemens Healthineers is the first to offer a multimodality approach to the assessment of liver fibrosis severity in different settings.



Enhanced Liver Fibrosis (ELF) Test†

The ELF™ test is a simple, routine blood test that allows you to assess the severity of liver fibrosis. Use of the test has been established in viral hepatitis, NAFLD, and alcoholic patient groups. The ELF test is convenient to request compared to other tests or biopsy:

- Requires only a routine serum sample
- Consists of three serum biomarkers: HA, PIIINP, TIMP-1
- Easily requested along with other routine blood tests

Systems

- ADVIA Centaur CP, XP, XPT Immunoassay Systems



Virtual Touch Software

Virtual Touch[™] quantification implements Acoustic Radiation Force Impulse technology for quantitative assessment of liver stiffness in a user-defined region.

- Industry-first Virtual Touch technologies†
- More than 250 published research studies
- Ability to extract additional diagnostic information with Cadence™§ contrast pulse sequencing technology

Systems

- Virtual Touch quantification, available exclusively on the ACUSON S2000™ and ACUSON S3000™ ultrasound systems

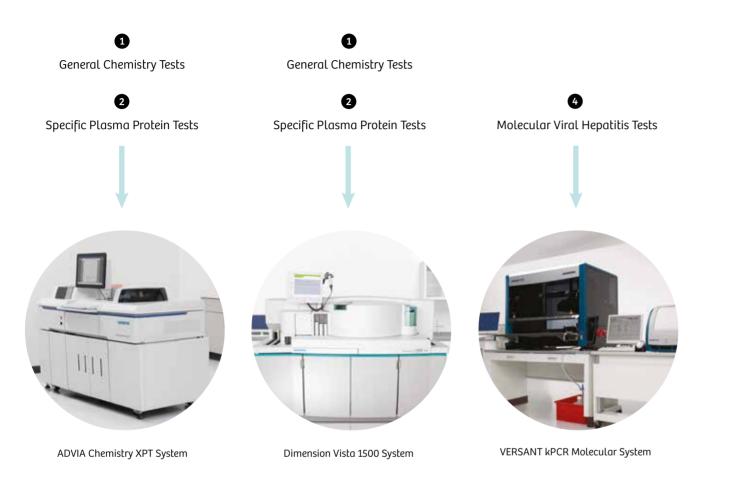
^{*}Under development. Not for sale. Product availability will vary by country.

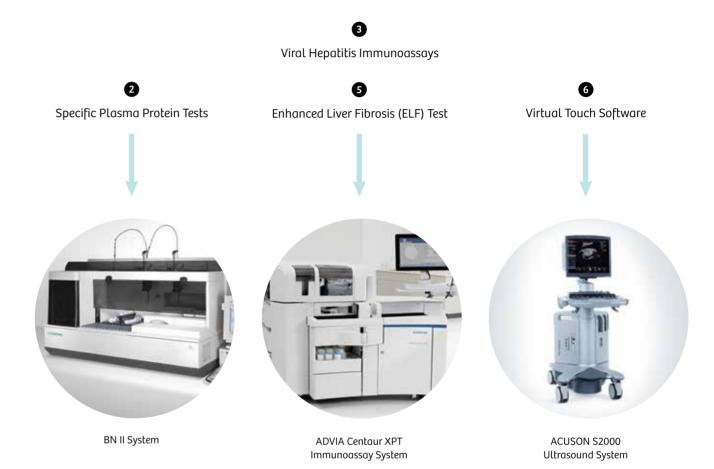
[†] Not available for sale in the U.S.

^{*}VERSANT HCV Genotype 2.0 Assay (LiPA) CE-marked for IVD use in the EU. FDA-approved for IVD use in the U.S.

[§] Can assist to highlight changes in tissue stiffness due to liver fibrosis.

A Range of Solutions for Comprehensive Care





Siemens Healthineers unites innovative products with proven expertise to help laboratories and clinicians address challenging clinical needs in the diagnosis and management of patients with chronic liver disease. With in vivo and in vitro solutions available from Siemens Healthineers, you can achieve optimized patient care and workflow combined with improved laboratory efficiency.

To learn more, visit siemens.com/liverhealth.

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