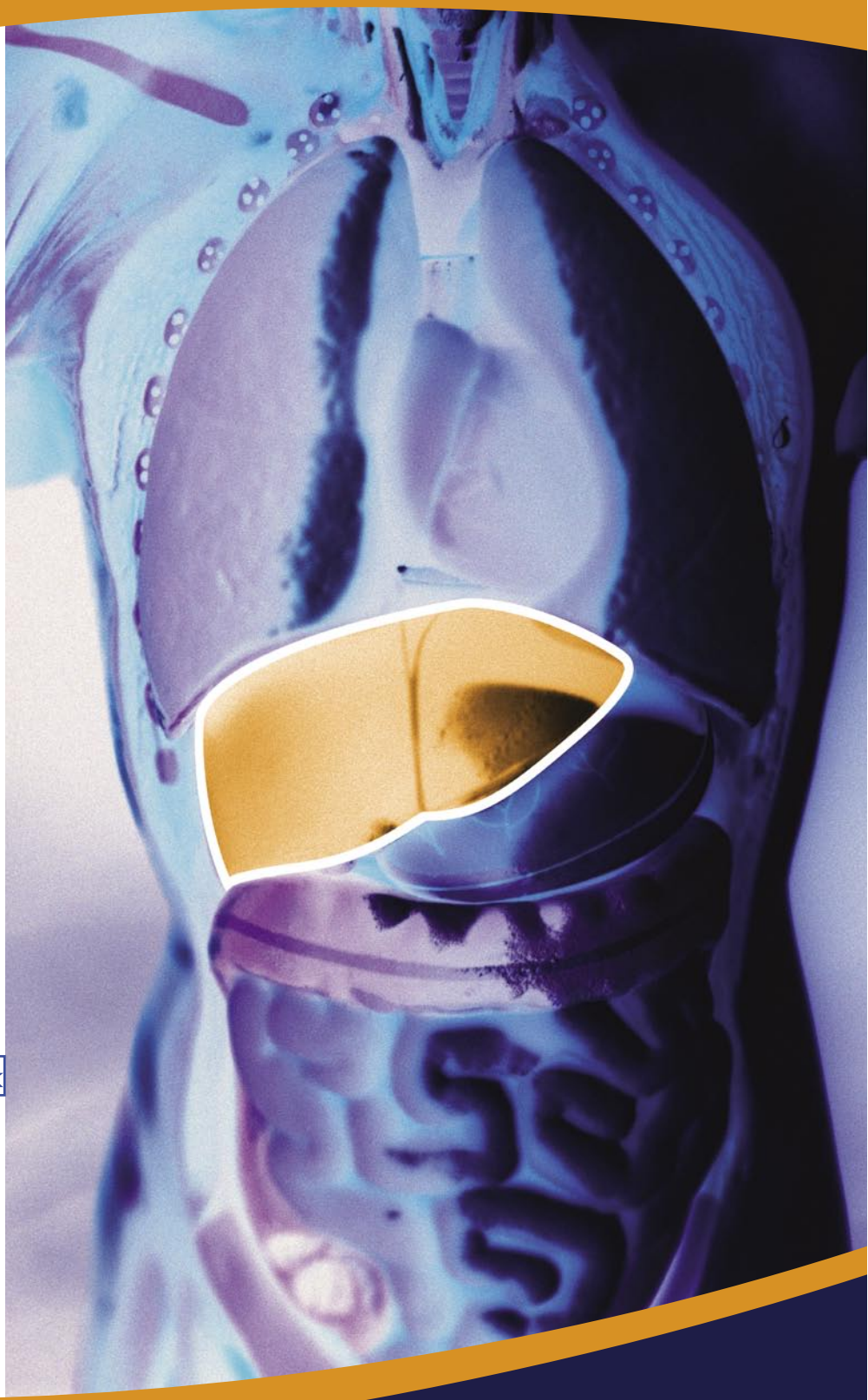
Autoimmune Liver Disease

BlueDot Liver[5]

New BlueDot kit
for the detection
of IgG autoantibodies
against M2, LKM1,
LC1, SLA and F-actin
in human serum.

BlueDot



D-tek

D-tek sa
Rue Brisselot 11 - B7000 Mons - BELGIUM
Tel. +32-65 84 18 88
Fax. +32-65 84 26 63

Vertrieb durch / Distributed by:

MAST DIAGNOSTICA
Laboratoriumspräparate GmbH
Feldstraße 20, 23858 Reinfeld
Tel.: ++49 4533 2007-0
Fax: ++49 4533 2007-68
E-mail: mast@mast-diagnostica.de

D-tek
www.d-tek.be

Autoimmune hepatitis (AIH) **and Primary Biliary Cirrhosis** (PBC) are relatively infrequent diseases. AIH however can be life-threatening if not diagnosed and treated rapidly. Diagnosis of AIH however is particularly difficult since the patients usually display a variety of autoantibodies, which overlap with other systemic autoimmune diseases and are also found in viral hepatitis.

Etiology and Pathology

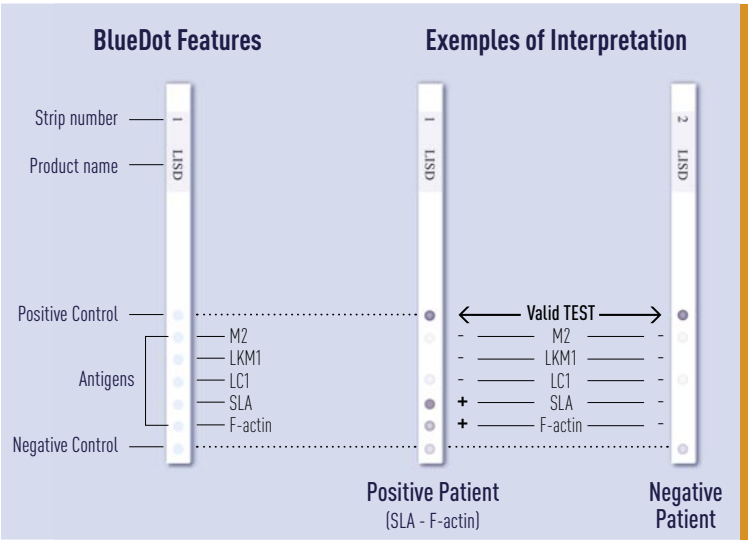
Like other autoimmune disorders AIH is a disease of unknown cause that occurs in persons with a genetic predisposition. Up to ninety percent of the patients are female and 75% are positive for HLA-B8, DR3 or DR4. Initially considered to be a disease of young women, it is established now that it affects all ages and includes males, too. A chronic course is usually seen and cirrhosis is often present at first clinical presentation, already. Occasionally there are acute or even fulminant presentations and consequently some of these patients suffer such advanced disease at diagnosis that life-threatening complications are present. The typical clinical and laboratory test pattern is that of chronic active hepatitis. Histology of autoimmune hepatitis includes elements of chronic liver diseases such as portal fibrosis progressing to macro nodular cirrhosis, and active liver disease: portal and parenchymal lymphocyte and plasma cell infiltrates with piecemeal necrosis.

Diagnosis

Diagnosis of Primary Biliary Cirrhosis (PBC) and Autoimmune Hepatitis (AIH) is based on a combination of clinical, biochemical, histological and serological findings. Apart from testing for markers of viral hepatitis, particularly the hepatitis B and C viruses (to rule out this cause), serology is mainly based upon screening for autoantibodies. **Autoimmume Hepatitis** is further separated into **Type II** and **Type I**, the latter being the more frequent one, showing up in two third of the cases. **M2** antibodies belong to the group of antimitochondrial antibodies (AMA) and are strongly associated with PBC. At least nine distinct AMA have been identified, which have been classified as M1-M9 according to their antigen specificity and disease association. Of these, only the M2 subtype seems to approach absolute specificity for PBC. Indeed, about 95% of patients with PBC have M2 autoantibodies and, conversely, about 90% of asymptomatic individuals who are found to be M2-positive on routine screening can be shown to have underlying PBC on further investigations. **LKM1** (Liver/Kidney Microsome) antibodies react with the microsomal cytochrome isoform P450 IID6 and are the most prevalent markers for type II AIH. They are considered specific for this type, although low titres of antibodies have been reported in about 5% of patients with chronic hepatitis C. **LC1** (Liver Cytosol) antibodies react with a soluble cytosol enzyme (Formiminotransferase Cyclodeaminase) and occur in about 30% of patients with type II AIH, though frequently associated with LKM1 antibodies, they are the sole liver-related circulating autoantibodies in about 10% of cases. Moreover anti-LC1 antibodies are clinically associated in most cases with greater disease activity and younger age. **SLA** (Soluble Liver Antigen) antibodies seem to have a high positive predictive value for type I AIH, though relatively rare (<30%). However, they occur in a significant number of patients who are seronegative at presentation for other autoantibodies and therefore maybe useful diagnostically. **F-actin** antibodies are the main component of the broad family of **S**mooth **M**uscle **A**ntibodies **(SMA)**. They bind to the F-actin component, a globular protein of 34kD (polymerized into filaments), in the cytoskeleton of the cells. F-actin in its biologically active polymerized form is the most specific and sensitive autoantigen of AIH Type I. A correct interpreted F-Actin pattern on ASMA is reported to have a sensitivity of ~90% and a specificity of ~100% for patients with acute phase AIH Type-I

BlueDOT Liver[5]

BlueDOT Liver5 is the first immunoassay able to differentiate AIH type 1 and type 2 as well as primary biliary cirrhosis (PBC) in one easy test run. It offers easy handling and cost effectivity for the reliable detection of the five most relevant antibodies in autoimmune hepatic disorders in a single test.



Available products and codes

Code	product	interpretation	number of tests
LISD-24	**Liver5**	**Qualitative**	**24 tests**
ACD-24	**F-Actin**	**Qualitative**	**24 tests**

Bibliography

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