DIARECT

Part of BBI Solutions

LKM 1, LC 1 and SLA/LP Antigens

Anti-Liver/Kidney microsomal type 1 antibodies (anti-LKM 1) have been found to target Cytochrome P450 2D6 (CYP2D6) which is a member of a complex family of monooxygenases (Abuaf *et al.* 1992; Bourdi *et al.* 1990; Gonzales and Gelboin 1992; Gueguen *et al.* 1988). CYP2D6 localizes to the endoplasmic reticulum (ER) where it is involved in hydroxilizing steroids, fatty acids and xenobiotic compounds (Gonzalez *et al.* 1992; Rizetto *et al.* 1974).

The International Autoimmune Hepatitis Group (IAIHG) has reported the presence of these autoantibodies to be a characteristic of autoimmune hepatitis (AIH) type 2 (Homberg *et al.* 1987; Liberal *et al.* 2014). Recombinant LKM 1 has enabled the establishment of immunoassays for a better analysis of the autoantibodies, which are reported to be potentially mixed up with anti-mitochondrial autoantibodies (AMA) in indirect immunofluorescence (IIF) (Bogdanos *et al.* 2003; Czaja *et al.* 1992). In addition, this recombinant antigen allows the differentiation of cytochrome P450 2D6 / LKM 1 autoantibodies from auto-antibodies against other monooxygenases of the P450 family, which is not possible in IIF.

Formiminotransferase cyclodeaminase is a bifunctional enzyme, which is involved in the metabolism of both histidine and the vitamine folate. Folate and its derivates are required for the synthesis of DNA, RNA and amino acids (Mao *et al.* 2004). Formiminotransferase cyclodeaminase is the antigen of liver cytosol antigen type 1 (LC 1) autoantibodies which are reported to be present in approximately 30% of AIH type 2 patients and to occur together with LKM 1 autoantibodies (Lapierre *et al.* 1990; Muratori *et al.* 2001). Although LC 1 autoantibodies give rise to a characteristic pattern in IIF, this pattern may be masked by concurrent LKM 1 autoantibodies. (Sebode *et al.* 2018). Therefore, using recombinant LC 1 in immunological assays may help to solve this limitation. Intriguingly, in approximately 10% of the patients, autoantibodies against LC 1 are reported to represent the only serological marker for AIH type 2 (Abuaf *et al.* 1992).

Cytosolic soluble liver antigen / liver pancreas antigen (SLA/LP) is specifically detected in about 20% of the AIH patients. Target of anti-SLA/LP is a 50 kDa UGA serine tRNA-associated protein complex (tRNA$^{(Ser)Sec}$). A high specificity and frequency (47.5%) of the anti-tRNP$^{(Ser)Sec}$ autoantibodies for severe forms of type 1 AIH has been shown (Costa *et al.* 2000; Wies *et al.* 2000).

DIARECT's AIH specific antigens are produced in either *E. coli* or the baculovirus/insect cell expression system.

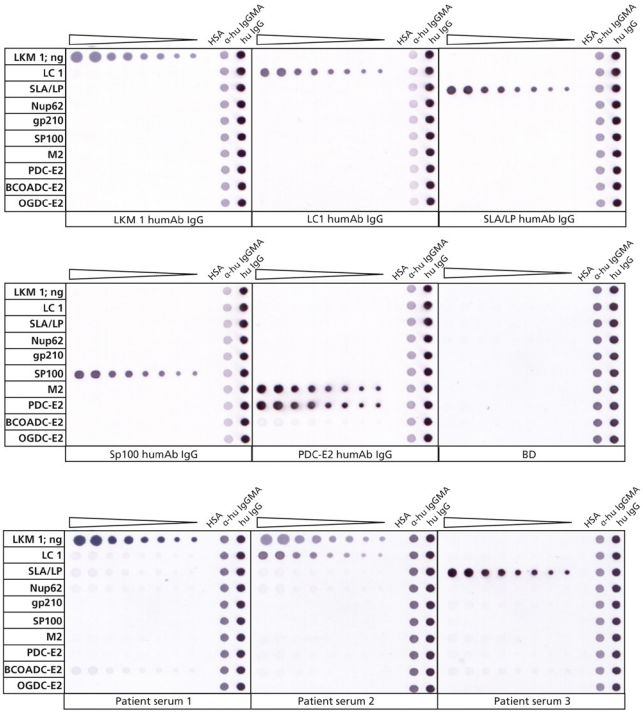

Figure: Immunodot analysis of serum from a blood donor (BD; negative control) and patient sera (1-3). Besides new generation LKM 1; ng, LC 1 and SLA/LP the following antigens of anti-mitochondrial autoantibodies (AMA) were included: Nup62, gp210, Sp100, M2, BCOADC-E2, OGDC-E2, PDC-E2. Human serum albumin (HSA) served as a negative control, anti-human IgGMA (α-hu IgGMA) and human IgG (hu IgG) were used as positive controls. Samples were also probed with DIARECT's human chimeric monoclonal antibodies against LKM 1, LC 1, SLA/LP, PDC-E2.

Ordering Information		
31800	Cytochrome P450 2D6	0.1 mg
31801	(LKM 1; ng)	1.0 mg
13700	Formiminotransferase	0.1 mg
13701	Cyclodeaminase (LC 1)	1.0 mg
30800	SLA/LP	0.1 mg
30801		1.0 mg

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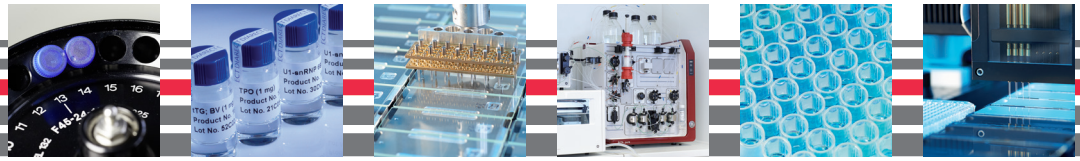

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