DIARECT
Part of BBI Solutions

Antigens associated with Primary Biliary Cirrhosis

Primary biliary cirrhosis (PBC) is a chronic and progressive autoimmune liver disease, which is characterized by the destruction of the bile ducts and portal inflammation leading to liver cirrhosis and consequently to hepatic failure.

Serological PBC diagnosis is based on the detection of anti-mitochondrial autoantibodies (AMA) against the so-called M2 antigen, which can be found in over 90% of the patients. This antigen comprises the E2-subunits/ dihydrolipoamide transferases of three mitochondrial 2-oxo acid dehydrogenase complexes: pyruvate dehydrogenase complex (PDC-E2), 2-oxoglutarate dehydrogenase complex (OGDC-E2), and branched chain 2-oxo acid dehydrogenase complex (BCOADC-E2). All three E2-subunits are produced in the baculovirus/insect cell expression system and are available as separate parameters or as a mixture (M2), which contains equal masses of each protein.

Although AMA are an invaluable tool in the serological diagnosis of PBC, additional PBC-specific anti-nuclear autoantibodies (ANA) against nuclear autoantigens have been identified and can be detected in approximately 30-50% of the patients. Especially gp210 and Sp100 are of interest with autoantibodies against the former being found in approximately 25% of patients with M2/ AMA-positive PBC and up to 50% of those with M2/ AMA-negative PBC. Autoantibodies against Sp100 are also found in approximately 25% of PBC patients and are considered a highly specific PBC marker. In contrast to M2 autoantibodies, these autoantibodies appear to be associated with disease progression and severity.

The evolutionary conserved nucleoporin gp210 is a transmembrane glycoprotein and part of the nuclear pore complex (NPC), which regulates the transport between the nucleus and the cytoplasm. Autoantibodies against gp210 create a rim like or membrane-like pattern (M-ANA) around the nucleus in indirect immunofluorescence (IIF). Nickowitz and Worman identified the epitopes to be localized within the cytoplasmic 58 residue C-terminal tail of gp210.

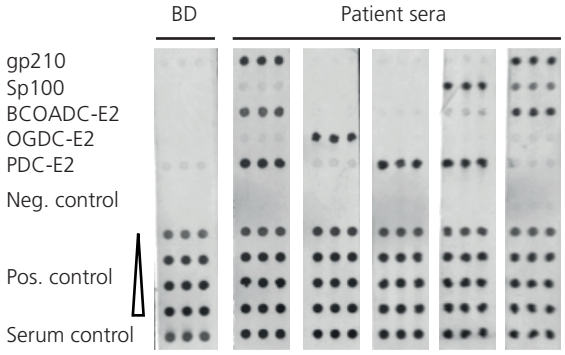

Figure: Immunodot analyses of the AMA antigens PDC-E2, OGDC-E2 and BCOADC-E2, and ANA antigens Sp100 and gp210 using sera from a blood donor (BD) and primary biliary cirrhosis patients.

DIARECT has applied its recombinant protein technology to offer a variant of human gp210 comprising several repeats of the autoreactive cytoplasmic C-terminal tail.

Sp100 is a nuclear protein with a deduced molecular weight of 55 kDa that is named after its speckled/multinuclear dots pattern (MND-ANA) observed in IIF assays and aberrant mobility at 100 kDa in protein gels. The cellular function of Sp100 is not well understood, but it appears to be involved in the regulation of gene transcription and the cellular response to viral infections.

As an auxiliary product, DIARECT offers a second recombinant human M-ANA antigen, the nucleoporin Nup62 that is directly involved in the molecular trafficking between the cytoplasm and the nucleus, and suggested to be involved in the centrosome homeostasis.

Nup62, Sp100, and gp210 are produced in the baculovirus/ insect cell expression system.

Ordering Information		
18000	M2	0.1 mg
18001		1.0 mg
17700	BCOADC-E2	0.1 mg
17701		1.0 mg
17800	OGDC-E2	0.1 mg
17801		1.0 mg
17900	PDC-E2	0.1 mg
17901		1.0 mg
18900	Sp100	0.1 mg
18901		1.0 mg
19000	gp210	0.1 mg
19001		1.0 mg
19400	Nup62	0.1 mg
19401		1.0 mg

References:
Bogdanos *et al.* (2008) World J Gastroenterol. 14 (21): 3374-3387
Fusconi *et al.* (1991) Clin Exp Immunol. 83 (2): 291-297
Hohenester *et al.* (2009) Semin Immunopathol. 31 (3): 283-307
Nguyen *et al.* (2010) Best Pract Res Clin Gastro. 24 (5): 647-654
Nickowitz and Worman (1993) J Exp Med. 178 (6): 2237-2242

In some countries the use of certain antigens in diagnostic tests may be protected by patents. DIARECT is not responsible for the determination of these issues and suggests clarification prior to use.

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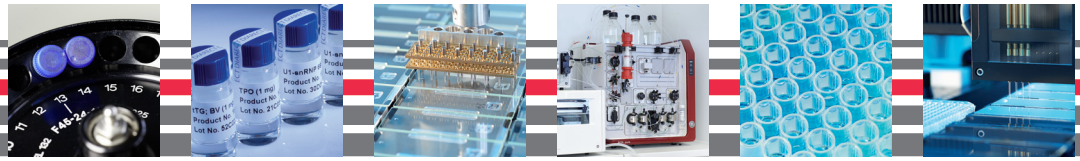

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