DIARECT
Part of BBI Solutions

Borreliella burgdorferi Antigens

Lyme Disease is caused by different *Borreliella* species of the *B. burgdorferi sensu lato* complex that comprises at least 18 genospecies. Generally, the *Borreliella spp.* was long known as *Borrelia spp*. According to the findings of Adeolu and Gupta (2014) and official nomenclature changes by Oren and Garrity (2015) the species is now named *Borreliella*. This enables differentiation between Lyme Disease and Relapsing Fever spirochaetes, which are still classified *Borrelia spp*. While in Europe the pathogenic genospecies *B. afzelii*, *B. bavariensis*, *B. garinii, B. spielmanii, and B. burgdorferi* sensu stricto are present, the latter predominates in the United States (Stanek *et al.* 2012).

Several immunogenic proteins, often associated with the *Borreliella* outer membrane have been identified (Skare *et al.* 1995). These include outer surface proteins A and C (OspA, OspC) and neutrophil activating protein A (NapA) that appear to be important for infection and immune evasion (Borchers *et al.* 2015). The protein p28, also known as Oms28, is considered to play an important role in host-pathogen interaction (Cluss *et al.* 2004).

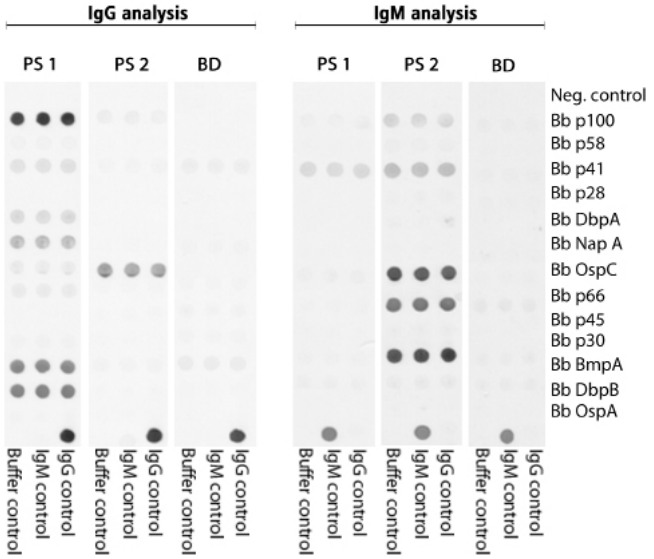


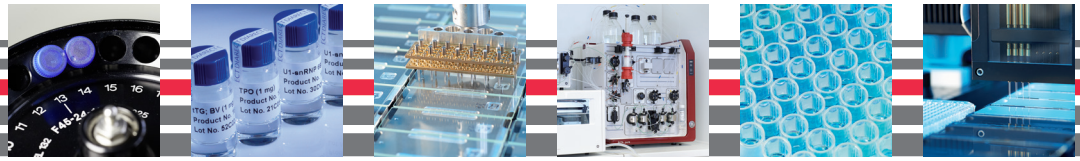
Figure: Immunodot analyses of negative (BD) and positive sera (PS1, PS2) for Borreliella burgdorferi (Bb). The presence of IgG (left) and IgM (right) antibodies was determined spotting triplicates of recombinant DIARECT antigens derived from B. burgdorferi on nitrocellulose membrane.

The antigens p28 and p30 were found to be not detectable in all strains of *B. burgdorferi* (Das *et al.* 1996). Further immunogens are basic membrane protein A (BmpA), flagellal protein p41 (FlaB), p45, p66, p58, and p100. The most sensitive protein for IgG antibody detection in all stages of Lyme disease was found to be VlsE1 (Goettner *et al.* 2005).

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

Ordering Information		
40500 40501	*Borreliella burgdorferi* BmpA	0.1 mg 1.0 mg
40400 40401	*Borreliella burgdorferi* DbpA	0.1 mg 1.0 mg
40600 40601	*Borreliella burgdorferi* DbpB	0.1 mg 1.0 mg
41300 41301	*Borreliella burgdorferi* NapA	0.1 mg 1.0 mg
41200 41201	*Borreliella burgdorferi* OspA	0.1 mg 1.0 mg
40300 40301	*Borreliella burgdorferi* OspC	0.1 mg 1.0 mg
42500 42501	*Borreliella burgdorferi* p28	0.1 mg 1.0 mg
42600 42601	*Borreliella burgdorferi* p30	0.1 mg 1.0 mg
40200 40201	*Borreliella burgdorferi* p41	0.1 mg 1.0 mg
41500 41501	*Borreliella burgdorferi* p45	0.1 mg 1.0 mg
41600 41601	*Borreliella burgdorferi* p58	0.1 mg 1.0 mg
41700 41701	*Borreliella burgdorferi* p66	0.1 mg 1.0 mg
40100 40101	*Borreliella burgdorferi* p100	0.1 mg 1.0 mg
45700 45701	*Borreliella burgdorferi* VlsE1	0.1 mg 1.0 mg

References:
Adeolu and Gupta (2014) Anton Leeuw Int J G. 105: 1049-1072
Borchers *et al.* (2015) J Autoimmun. 57: 82-115
Cluss *et al.* (2004) Infect Immun. 72: 6279-6286
Das *et al.* (1996) Res Microbiol. 147: 739-751
Goettner *et al.* (2005) J Clinical Microbio. 43: 3602-3609
Oren and Garrity (2015) Int J Syst Evol Microbiol. 65: 1105-1111
Skare *et al.* (1995) J Clin Invest. 96: 2380-2392
Stanek *et al.* (2012) Lancet. 379: 461-473



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