Recombinant Borrelia burgdorferi sensu stricto (B31) CRASP-2 Protein, MBP-tagged

Cat. No. BOR-028 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	This is a recombinant Borrelia burgdorferi CRASP-2 protein, fused to an MBP-tag and produced in E. coli (>90% purity).
Tag	MBP
Background	CRASP-2 is encoded by the spirochete B. burgdorferi, which is carried by Ixodes ticks. Strain B31 is the type strain (ATCC 35210) for this organism and was derived by limited dilutional cloning from the original Lyme-disease tick isolate obtained by A. Barbour (Johnson, et al., 1984). B. burgdorferi differ in their susceptibility to normal human serum and are therefore classified as complement-resistant, complement-sensitive and intermediate complement-sensitive. Complement resistant bacteria absorb human immune regulators FHL-1/reconectin and factor H using two outer surface Complement Regulator-Acquiring Surface Proteins (CRASP-1 and CRASP-2). Surface-attached FHL-1/reconectin retains its complement regulatory and cleavage activity (Kraiczy, et al., 2001). Factor H and FHL-1 serve as cofactors for factor I, a serine protease that cleaves complement component 3b (C3b) directly on the cell surface and thereby ensures resistance of spirochetes to complement-mediated lysis (Kraiczya, et al., 2007). CRASP-2 (CSPz) is a 20/21- kDa protein which binds to FHL-1 and factor H binding protein (although it interacts preferentially with Factor H) and may be predominantly expressed by serum-resistant Borrelia strains (Rossmann, et al., 2006). It is possible that because of discontinuous binding regions in the factor H/FHL-1, a long-distance

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	interaction may be involved in binding of both immune regulators. Putative coiled-coil structural elements may also be important in the interaction of B. burgdorferi CRASP-1 with factor H (Kraiczya, et al., 2007). These proteins represent another immune evasion mechanism of B. burgdorferi, as bacteria acquire human complement regulators to control complement activation on their surface and prevent formation of toxic activation products (Kraiczy, et al., 2001).
Purity	>90% by SDS-PAGE
Formulation	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2 and 0.01% (w/v) Sodium Azide
Stability	At +4 centigrade: Not determined. At -80 centigrade: Not determined.
Freezing	Can be frozen, but avoid multiple freeze/thaw cycles.
Storage	Short Term Storage: +2 centigrade to +8 centigrade Long Term Storage: -80 centigrade
Concentration	1.0 mg/mL by UV absorbance at 280 nm
Notes	This product is intended for research and manufacturing uses only. It is not a diagnostic device. The user assumes all responsibility for care, custody and control of the material, including its disposal, in accordance with all regulations.
Type	Recombinant
ClassID 1	Infectious Disease

GENE INFORMATION

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Synonyms	Borrelia burgdorferi sensu stricto (B31) CRASP-2

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