CYREX® Laboratories

CLINICAL SPECIFICATIONS

ACINETOBACTER

Pathogen Type:

Acinetobacter is a non-motile, gram-negative bacterium.

Associated With:

Multiple sclerosis[1]

Known Cross-Reactions: Myelin basic protein, myelin oligodendrocyte glycoprotein[reviewed in 1]

Clinical Significance:

The detection of antibodies to *Acinetobacter* indicates the patient may have increased risk of multiple sclerosis (MS). *Acinetobacter* infection occurs when the immunological barriers of the host are breached and is hence considered an opportunistic pathogen.[2] Evidence of sinusitis in MS patients indicate that *Acinetobacter* is one of the major causative agents of MS and measurement of *Acinetobacter* IgG antibodies could be used as a marker of disease activity.[3] The measurement of IgG antibody against *Acinetobacter* as well as neural antigens such, as myelin basic protein and neurofilaments, was recommended, by study authors, for the identification of possible MS.[4] It starts with a sinus infection, which leads to the formation of antibodies against the enzymes released by the bacteria. Then autoreactive antigens breach the blood-brain barrier, where *Acinetobacter* IgG can bind to myelin and other neurological tissues. At this time, antigen-antibody complexes are formed and inflammatory molecules are released, which leads to MS. Thus, eradication of bacteria from the sinuses may help to stop or reverse the course of MS. *Acinetobacter* can cause pulmonary, urinary tract, bloodstream or surgical wound infections.[5]

This array tests for IgG immune reactivity associated with *Acinetobacter*. This is not a measurement of acute infection. Equivocal or out-of-range results indicate IgG antibody reactivity to the tested antigen. We tested 288 blood donor sera against *Acinetobacter* antigens at optimal dilution, 16% of these donors were IgG reactive.

References:

1. Ebringer, et al. *Acinetobacter* immune responses in multiple sclerosis. Arch Neurol, 2005; 62:33-36.
2. Howard, et al. *Acinetobacter baumannii*: an emerging opportunistic pathogen. Virulence, 2012; 3:243-250.
3. Hughes, et al. Cross-reactivity between related sequences found in *Acinetobacter* spp. *Pseudomonas aeruginosa*, myelin basic protein and myelin oligodendrocyte glycoprotein in multiple sclerosis. J Neuroimmunol, 2003; 144:105-115.
4. Ebringer, et al. The role of *Acinetobacter* in the pathogenesis of multiple sclerosis examined by using Popper sequences. Medical Hypotheses, 2012; 78:763-769.
5. Fournier and Richet. The epidemiology and control of *Acinetobacter baumannii* in health care facilities. Clin Infect Dis, 2006; 42:692–699.