Differences in Activation of Matrix Metalloproteinases in Joint Fluid by Specific Strains of Borrelia burgdorferi

Borrelia burgdorferi Strain B31 Activates Matrix Metalloproteinase Synoviocyte (Cell) Matrix Protein Digestion Lyme Arthritis

Borrelia burgdorferi Strain Geho No Activation Matrix Metalloproteinase No Matrix Protein Digestion No Lyme Arthritis

Relationship Between Family, Genus, Species and Strain

**Family:** Spirochaetaceae
**4 Genera**
**Genus:** Borrelia

**Species:** burgdorferi > 20 Species

**Strain:** Geho, etc. > 50 Strains

Similarity Between DNA Sequences of Brain Tissue and Bb OspA

DNA sequences of Bb outer surface protein A (OspA) compared with a data bank of DNA sequences of human neural tissue yielded three sequences that were identical. The three corresponding Bb peptides were synthesized and antibodies were induced against them. The antibodies cross-reacted with human neural tissues.

These findings imply that antibodies developed by Lyme disease patients against OspA will also bind to their own neural tissue, representing a form of autoimmune disease in which a person’s immune system attacks his own tissues. (21) See Chart 17.