Public Abstract
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Title:The Identification of a Diagnostic Biomarker Panel for Canine Osteoarthritis

Osteoarthritis (OA) is a common, debilitating and degenerative disease of human and veterinary patients that is characterized by pathologic changes in the articular tissues. These changes are accompanied by pain and disability. It was recently estimated that over 27 million adult humans and 20% of dogs more than one year old in the United States are affected by OA; therefore it is the most common form of arthritis. Much remains unknown about the underlying mechanisms and pathophysiology of OA, and it is not diagnosed early enough to allow clinical progression of disease to be prevented. The identification of a biomarker panel that can be used in conjunction with, or instead of, other tests could provide significant ramifications for the treatment and prevention of OA. A novel biomarker panel for the diagnosis of early osteoarthritis in dogs has been identified. This panel consists of monocyte chemoattractant protein 1 (MCP1), interleukin-8 (IL-8), keratinocyte-derived chemoattractant (KC), matrix metalloproteinase 2 (MMP2), matrix metalloproteinase 3 (MMP3) and matrix metalloproteinase 13 (MMP13). These markers, when used in combination and measured in the joint fluid, were consistently able to distinguish between normal and osteoarthritic dogs. Additional studies determined the specific joint tissues responsible for the altered production of these markers. These data represent a significant discovery in osteoarthritis research as this panel may assist with earlier diagnosis in both veterinary and human patients.