

Poster presentation

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QTL mapping arthritis traits in CXB mice

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B6 mice are of intermediate susceptibility to collagen-induced arthritis (CIA) while Balb/c mice are resistant, but are highly susceptible to proteoglycan-induced arthritis. Antigen presentation is H-2 directed but the disease that results is thought to be driven by regions outside of the MHC therefore, CXB mouse strains afford the opportunity to look at the influence of these regions on CIA. H2-b CXB strains are predicted to show variation in disease parameters relative to C57Bl/6, depending on which Balb/c chromosome regions is present. Nine of thirteen CXB strains are H-2b while one has a recombinant H-2 region (CXB9). The four H-2d strains were crossed with C57Bl/6ByJ to generate F1 mice that could present collagen via the B6-contributed H-2b locus, while possibly identifying Balb/c loci that would have a dominant effect on disease progression. A number of disease and immunological parameters were collected and gene expression analysis was done on resting spleens. A range of incidence and severity of disease was seen and mice were assigned to susceptibility groups based on collected parameters. Preliminary QTL analysis has identified regions on chromosomes 13, 15 and 19 that correlate with susceptibility to CIA.