Rheumatoid arthritis in latin americans enriched for amerindian ancestry is associated with loci in chromosomes 1, 12, and 13, and the HLA Class II region

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Objective To identify susceptibility loci for rheumatoid arthritis (RA) in Latin American individuals with admixed European and Amerindian genetic ancestry. Methods Genotyping was performed in 1,475 patients with RA and 1,213 control subjects, using a customized BeadArray containing 196,524 markers covering loci previously associated with various autoimmune diseases. Principal components analysis (EigenSoft package) and Structure software were used to identify outliers and define the population substructure. REAP software was used to define cryptic relatedness and duplicates, and genetic association analyses were conducted using Plink statistical software. Results A strong genetic association between RA and the major histocompatibility complex region was observed, localized within BTNL2/DRA-DQB1- DQA2 (P = 7.6 × 10 -10), with 3 independent effects. We identified an association in the PLCH2-HES5-TNFRSF14-MMEL1 region of

chromosome 1 (P = 9.77 × 10 -6), which was previously reported in E