

ERAP1 and HLA-C interaction in inflammatory bowel disease in the Spanish population

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Large genome-wide analysis studies (GWAS) and meta-analyses have dramatically increased our knowledge of the genetic risk factors of inflammatory bowel disease (IBD), identifying at least 163 loci. The endoplasmic reticulum aminopeptidase-2 (ERAP2) gene has been reported as a potential candidate gene for IBD. GWAS have also shown the potential associations between ERAP single nucleotide polymorphisms (SNP) loci and susceptibility to several autoimmune diseases, and ERAP1 and ERAP2 polymorphisms are related to HLA class I-associated diseases, including ankylosing spondylitis and Behçet's disease. Interestingly, these associations were confined to individuals carrying HLA class I-risk alleles. The aim of this study was to investigate the association of ERAP1 and ERAP2 SNPs with IBD in a Spanish population, analysing their possible interaction with specific HLA-C alleles to IBD susceptibility. A total of 367 individuals were divided into 216 IBD cases and 151 controls. SNP genotyping was performed using TaqMan® genotyping assays, whereas HLA-C typing was analysed by sequence-specific oligonucleotide probing. Herein, we report an association of the ERAP1 SNP rs30187 with the HLA-C*07 allele. The existence of shared inflammatory pathways in immunologically related diseases together with the understanding of ERAP1 function may offer clues to novel treatment strategies. © SAGE Publications.

Crohn's disease

ERAP1

HLA-C

inflammatory bowel disease

ulcerative colitis

aminopeptidase

ERAP1 protein, human

ERAP2 protein, human

HLA C antigen

minor histocompatibility antigen

antigen presentation

biological model

cytotoxicity

female

gene frequency

genetic association study

genetic predisposition

genetics

genotype

human

inflammatory bowel disease

male

molecular mimicry

risk

single nucleotide polymorphism

Spain

Aminopeptidases

Antigen Presentation

Cytotoxicity, Immunologic

Female

Gene Frequency

Genetic Association Studies

Genetic Predisposition to Disease

Genotype

HLA-C Antigens

Humans

Inflammatory Bowel Diseases

Male

Minor Histocompatibility Antigens

Models, Immunological

Molecular Mimicry

Polymorphism, Single Nucleotide

Risk

Spain