*Contribution of your manuscript to the research field*

The human major histocompatibility complex class I chain-related protein A (MICA) regulates immune surveillance of cancers with its receptor, NKG2D (natural killer group 2D). As a highly polymorphic gene, the genetic association and allele functions of MICA with colorectal cancer (CRC)have not been explored. In this study, we examined MICA alleles in exons 2-5 of the gene in 104 patients with CRC and 536 healthy controls by PCR sequencing, explored the function of MICA alleles in CRC cell lines, and analyzed the disease-free survival time of patients with CRC. We found that *MICA \*012:01* allele was associated with patients with CRC carrying KRAS codon 12 mutation. Functional analysis of CRC cell lines transfected with MICA alleles indicated that overexpression of *MICA \*012:01* induced enhanced proliferation, invasion, and metastaic phenotypes of CRC. Analysis of disease-free survival curves in patients with CRC and various MICA alleles suggest that *MICA \*012:01* allele may be a predictive marker for poor prognosis in patients with KRAS codon 12 mutated CRC. These results indicate that multiple MICA alleles are associated with CRC in Chinese patients and correspond to varying clinical outcomes. Therefore, *MICA \*012:01* allele may confer susceptibility to CRC patients carrying KRAS mutation and impact the progress of malignancy of these patients by alteration of immune surveillance.