

Abstract

It was discovered that by binding to CTCF which is important for maintaining chromosomal structures, hSATII RNA inhibits the function thereof, changes chromosome interaction, and induces transcription of inflammation-associated genes. It has also been discovered that cell death can be selectively induced in senescent cells and cancer cells by suppressing hSATII RNA expression. From the obtained results, it has been found that cancer treatment which targets senescent stromal cells and cancer cells can be performed with a substance that suppresses hSATII RNA or a substance that increases CTCF expression. In addition, cancer can be detected early by measuring the expression and activity of hSATII RNA and CTCF, and an epigenomic change of the hSATII DNA region. Thus, it is possible to provide a therapeutic drug for a cancer associated with cellular senescence, a method for screening thereof, and a test support method.