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Anti-tumor mechanism of Rigosertib in K-Ras mutant colorectal cancer cells

Zahra Haghighi[1], Farzad Rahmani[1]*

1. ***Department of Medical laboratory sciences, Kashmar School of Nursing, Mashhad University of Medical sciences, Mashhad, Iran***

Introduction

Colorectal cancer (CRC) is a major cause of cancer-related mortality worldwide with over 700,000 attributable deaths per annum. The therapeutic potency of Rigosertib (RGS) in the treatment of myelodysplastic syndrome has been investigated previously, but little is known about its mechanisms of action.

Material & Method

Original article

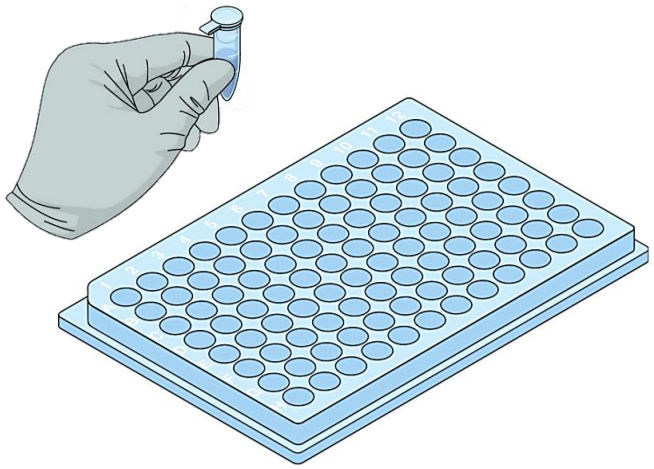
Code of Ethics
IR.MUMS.MEDICAL.REC.1397.044

CRC cell lines

- Caco2
- HT-29
- SW-480
- CT-26 (Murine)

1 **MTT assay**

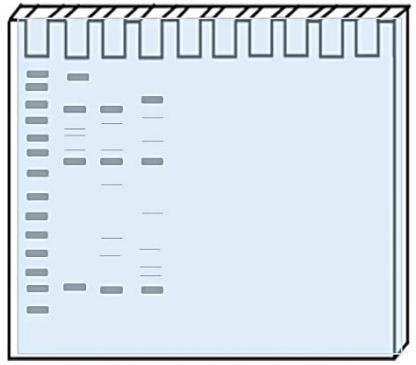
The cytotoxic effects of RGS on CRC cells



2 **Real-Time PCR**

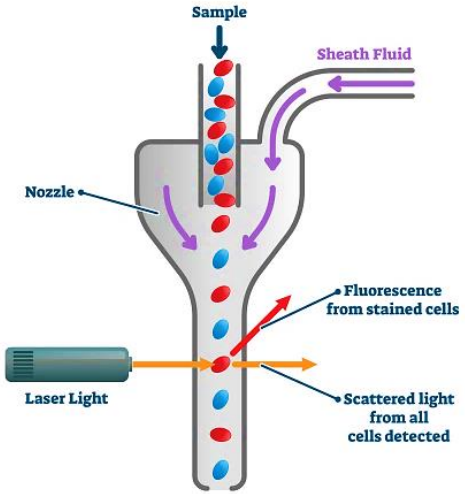
3 **Western blotting**

The regulatory effects of RGS on the expression of P21



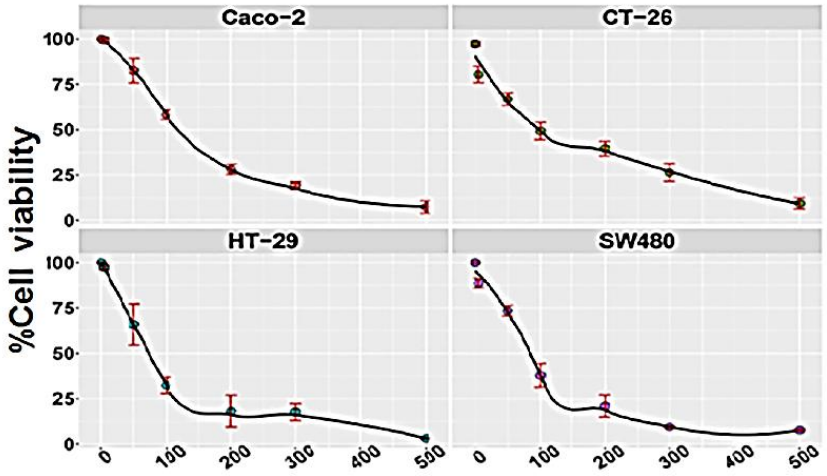
4 **Flow cytometry**

The cell cycle progression

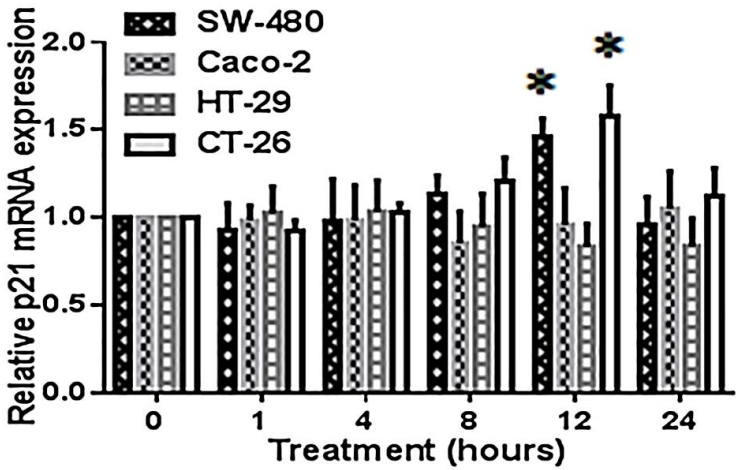


Results

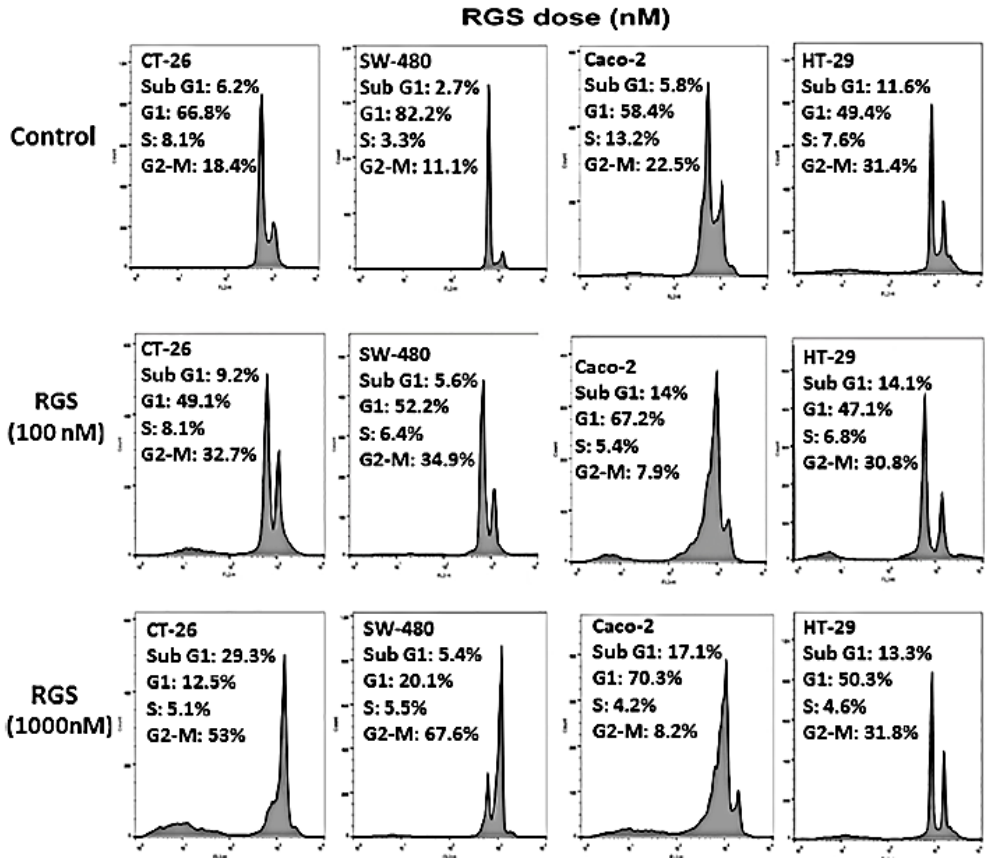
MTT assay results



Real-Time PCR results



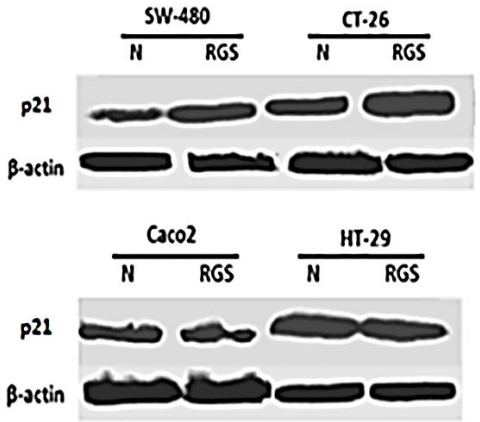
Cell cycle analysis



Statistical analysis

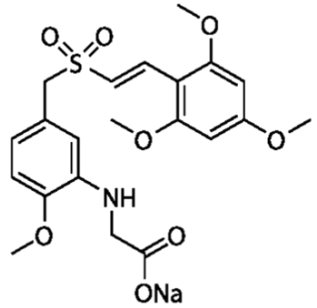
P-value <0.05
Student's t-test

Western blotting results



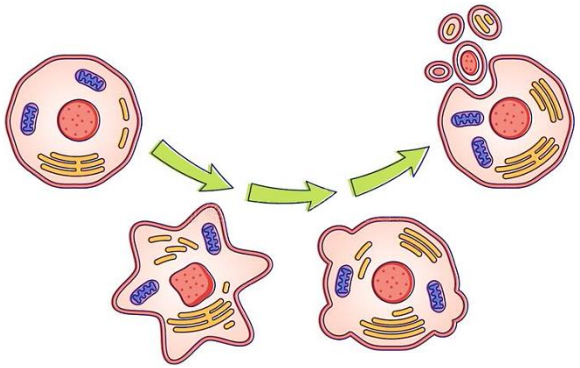
Conclusion

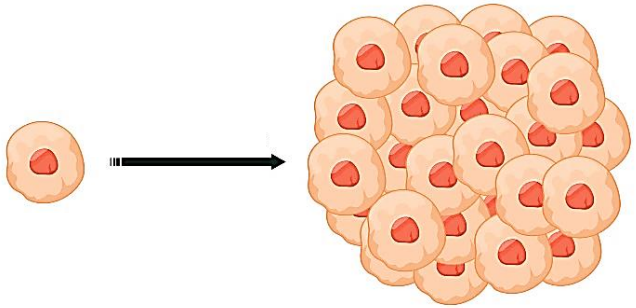
Rigosertib

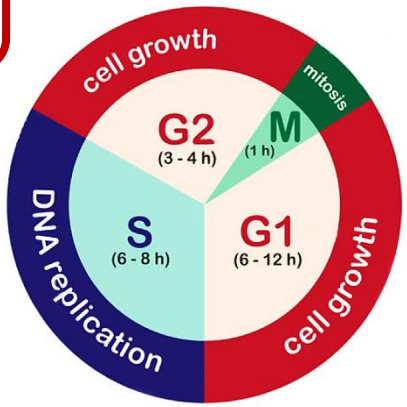


Presence of mutations in KRAS

- Cell Viability
- Cell Proliferation
- Cell Cycle Progression







Keywords

Colorectal cancer
Rigosertib
p21

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