



Coumarin treatment changes the expressions of piR-Hep-1 and piR-651 in hepatocellular carcinoma

Necdet ALTINER

Maltepe University, Turkey

Abstract

PIWI interacting RNAs (piRNAs) are the novel members of small non-coding RNAs which cannot produce any protein but are effective on transcription and post-transcriptional mechanisms of cells. Coumarin derivatives can be used as a drug in various types of diseases. In this study we used an isoform of coumarin which is called 4-OH-Coumarin. In scientific literature, there is not enough researches about coumarin treatment in hepatocellular carcinoma. In this study, we aimed to determine the effect of 4-OH-Coumarin on piR-Hep-1 and piR-651 expressions of HePG2 cells. According to our previous study, the optimal concentration and time of 4-OH-Coumarin was treated to HePG2 hepatocellular carcinoma cells. After treatment, total RNA was isolated and the expression changes of piR-Hep-1 and piR-651 was determined on these cells by using Real Time Polymerase Chain Reactions (RT-PCR). According to our obtained data, statistically significant upregulation of piR-651 expressions was observed in 4-OH-Coumarin treated HePG2 cells compared to control ($P < 0.001$). On the other hand, the expression of piR-Hep-1 did not affect from 4-OH-Coumarin treatment statistically Notes: significant ($P > 0.05$). In scientific literature, the expression patterns of piR-Hep-1 is not clear yet. In some types of cancer types, it was upregulated, but it was downregulated in some types of cancer types. Our results indicated that about 4-OH-Coumarin is useless to determine the piR-Hep-1 expression pattern. This result is significant to clarify the relationship between piR-Hep-1 and 4-OH-Coumarin treatment. Generally, piR-651 is downregulated in circulating tumor cells. Our results indicated that 4-OH-Coumarin treatment on HePG2 cells might be effective to regulate the effect of piR651. All these data indicate that some of piRNAs might have special expression patterns in hepatocellular carcinoma and these expression patterns can be regulated by treated natural compounds which are used to inhibit the effects of cancer cells.

Biography

Necdet ALTINER graduated from İstanbul University, Faculty of Veterinary Medicine at 2015. He started PhD education from Histology and Embryology Department of Maltepe University at 2019. Furthermore, he has been working as a veterinarian at Maltepe University Experimental Animals Research and Application Centre since 2018. He is interested at cancer genetics researches and soft tissue surgery of experimental animals.



17th International Conference on Oncology Nursing and Cancer Care
Edinburgh, Scotland | March 04-5, 2020

Citation: Necdet ALTINER, *Coumarin treatment changes the expressions of piR-Hep-1 and piR-651 in hepatocellular carcinoma*, Cancer Nursing 2020, 17th International Conference on Oncology Nursing and Cancer Care, Edinburgh, Scotland | March 04-05, 2020, 2471-2671-6:3-11