Synthesis and biological activity of new benzothiazole derivatives with potent anticancer activity

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The MAPK pathway is normally involved in the regulation of cell proliferation and survival, while oncogenic mutations of its components are frequently observed in several types of cancer. BRAF mutations are present in 5-10% of colorectal cancer patients while overall in 8% of human tumors. Due to the rapid development of resistance to the currently available drugs and the various side effects that come along with therapy, the interest in this field has focused in the discovery of new selective BRAF inhibitors that overcome the problems mentioned above. In order to contribute in this field, a series of benzothiazole derivatives were designed and synthesized as potent $BRAF^{V600E}$ inhibitors. In this presentation, the synthesis of new compounds that contain the benzothiazole ring will be presented along with their biological evaluation which includes in vitro and in vivo experiments.

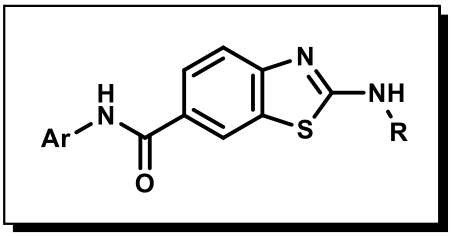

Figure 1: General structure of novel benzothiazole derivatives.

References:
1. B. Agianian, E. Gavathiotis, J. Med. Chem., 61 (2018) 5775-5793

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