Colorectal Cancer Growth Retardation through Induction of Apoptosis, Using an Optimized Synergistic Cocktail of Axitinib, Erlotinib, and Dasatinib

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Abstract

Patients with advanced colorectal cancer (CRC) still depend on chemotherapy regimens that are associated with significant limitations, including resistance and toxicity. The contribution of tyrosine kinase inhibitors (TKIs) to the prolongation of survival in these patients is limited, hampering clinical implementation. It is suggested that an optimal combination of appropriate TKIs can outperform treatment strategies that contain chemotherapy. We have previously identified a strongly synergistic drug combination (SDC), consisting of axitinib, erlotinib, and dasatinib that is active in renal cell carcinoma cells. In this study, we investigated the activity of this SDC in different CRC cell lines (SW620, HT29, and DLD-1) in more detail. SDC treatment significantly and synergistically decreased cell metabolic activity and induced apoptosis. The translation of the in-vitro-based results to in vivo conditions revealed significant CRC tumor growth inhibition, as evaluated in the chicken chorioallantoic membrane (CAM) model. Phosphoproteomics analysis of the tested cell lines revealed expression profiles that explained the [...]

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The authors wish to make the following corrections to this paper [1]:

The authors apologize for not giving sufficient credit to the involvement of Prof. C.R. Jimenez and her research group in this paper. Therefore, the following section is corrected:

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Reference