Oana Stefana Purcaru et al., J Cancer Sci Ther 2016, 8:9(Suppl)
http://dx.doi.org/10.4172/1948-5956.C1.085

Targeted angiogenic receptors in low passage glioblastoma cell lines *in vitro*

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The failure of therapies targeting tumor angiogenesis may be caused by anti-angiogenic resistance mechanisms induced by VEGF and non-VEGF pathways alterations. Several studies confirmed the association between tumor heterogeneity and response to treatment. It is well known from literature that immortal glioblastoma (GB) cell lines fail to reproduce the *in vivo* tumor heterogeneity and shown to accumulate mutations that may produce changes in the cell genotype and phenotype that have not initially been detected at earlier passages. Low-passage primary cultures may better reflect the properties of original tumor and are considered much more relevant models for studying the malignant diseases *in vitro*. The aim of this study is to evaluate the effect of angiogenesis inhibitors in low-passage primary GB cultures *in vitro*. The cells line was established from freshly sample of brain tumor tissue, was cultured in standard conditions and frozen after passage three. After thawing in standard conditions, adherent monolayer cells showed continuous growth and could recover. Cells were treated with angiogenesis inhibitors and the viability was evaluated by using MTT assay and by hemocytometric counting. The treatment with AG1433 (a PDGFRβ inhibitor), SU1498 (a VEGFR2 inhibitor) and ELTD1siRNA induced cytotoxicity in glioblastoma cells. BEZ235, a dual PI3K/mTOR inhibitor, induced cell death to the same extent as ELTD1siRNA but caused a greater degree of cytotoxicity than AG1433 and SU1498. The findings expand our understanding of the evaluation of angiogenesis inhibition *in vitro* and support the use of low-passage GB cell lines as preclinical models.

Biography

Oana Stefana Purcaru received her license in Physical Chemistry in the year 1998 and the License in Pharmacy in the year 2003.She completed her PhD Degree in 2011. She is working as a Lecturer since 2012, teaching and doing research activity at Biochemistry Department, University of Medicine and Pharmacy of Craiova, Romania. She has published more than 10 published papers in ISI journals, 5 books in national publishing and 3 chapters in international publishing. She has also served as a Research Team Member in many Projects and also been a member of numerous National and International Scientific Societies.

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