

Dissertation Evaluation Report

Report No.	Diploma Number: D-BIO 1373	Applicant's Name	Amrenova Aidana
Evaluators	Print name		
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<p>Evaluation Report of Dissertation</p> <p>1 . Evaluation of the research purpose. This research aimed to know the role of microenvironment in an early-stage tumor especially focusing on competition between initiated cells and surrounding normal cells. Effect of radiation exposure on this cell competition was also analyzed. The purpose is clear and gives a new insight in radiation-induced cancer.</p> <p>2 . Evaluation of the research methods. Anaplastic thyroid cancer cells (ACT-1) and normal thyroid epithelial cells (NTEC) were co-cultured in vitro and the dynamic changes in cell clusters of ACT-1 associated with localized expressions of cell-proliferation and/or apoptosis were evaluated by time-lapse microscopy, by live-cell imaging, and by immunofluorescence. Signaling molecules involved in cell competition was analyzed by western blotting. All methods are adequate and were carefully executed.</p> <p>3 . Evaluation of the analysis, interpretation, and discussion. NTEC cells suppressed the growth of ACT-1 clusters through the activation of Akt-Skp2 pathway. In turn, ACT-1 cells induced local activation of ERK 1/2 of neighboring NTEC cells and triggered apoptosis. Radiation exposure to normal cells abrogated this competition effect due to senescent-like growth arrest, suggesting that radiation modulated reciprocal stress response of cancer cells and normal cells in microenvironment. The results are reliable. Interpretation and discussion are well described.</p> <p>As stated above, the dissertation will greatly contribute to radiation cancer biology, and the evaluators uniformly agree that the dissertation is worthy of being approved for a Doctor of Philosophy in Medical Science.</p>			

Note: Do not fill in Diploma Number.