JOINT TRANSNATIONAL CALL 2016:

"Minimally and non-invasive methods for early detection and/or progression of cancer"

PARTNER REQUEST/COLLABORATION OFFER

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***I agree with the publication of my contact data and of this form on the TRANSCAN-2 Website:**

☑ YES

SEARCH FOR A COLLABORATOR

IF YOU ARE LOOKING FOR A PARTNER IN YOUR SUGGESTED PROPOSAL, PLEASE SPECIFY ALSO THE NEEDED EXPERTISE

Project proposal
Project title (draft):
Short description of the project in preparation and of the consortium; description of the areas of expertise needed (Max. 2000 words):

OFFER FOR COLLABORATION

IF YOU PROPOSE YOURSELF AS A PARTNER IN A CONSORTIUM, PLEASE DETAIL YOUR EXPERTISE

Our research group is studying about cancer stem cells, drug resistance and antibody production by using hybridoma technology. Cancer stem cell (CSC) hypothesis states that tumors contain only a small subpopulation of cells with a potential of self-renewal and differentiation. For a more effective treatment of cancer, it may be necessary to target both CSCs and non-CSC populations. In this connection, we studied the growth-inhibitory effects of trabectedin and its molecular mechanisms on human prostate CSCs and non-CSCs. Our another study about 3D culture system we investigated that the expression levels of JAK-STAT pathway and adhesion molecules VCAM and ICAM regulated by JAK-STAT pathway in prostate CSCs, non- CSCs and CSCs maintained as spheroids.

About the supportive treatment of prostate cancer we studied the effect of flavopiridol in prostate CSCs. Our findings indicate that flavopiridol could play a potential role in the therapeutic management of prostate cancer.

One of our projects as part of Primary Subjects R&D Funding Program of TUBITAK (The Scientific and Technological Research Council of Turkey), we are developing targeted Plazmonic Nanorods and Nanoshells for prostate and breast cancer prognosis and treatment. This project is under collaboration and cooperation of department of Histology, Ege University and IZTECH. In this project, synthetized Nanorods and Nanoshells, prepared by our group, conjugated with lastly produced specific antibodies by our group, followed by presenting to cancer murine models and response are evaluating.

Another project as part of 1001-Scientific and Technological Research Projects Funding Program of TUBITAK which we studied cancer stem cell and cancer cell responds to interactions with embryo in terms of EMT (epithelial to mesenchymal transition) molecules. When this interactions evaluated, they were researched by not only response to cancer stem cells and cancer cells cultured with together but also transition of cancer cells injected into embryo. All groups were analyzed by using microarray experiments and western blot techniques. The difference in findings between experimental groups in this research made us think that miRNAs would be responsible for this differences. To that end, now we are analyzing potential role of miRNA expression profiles on reprogramming of cancer stem cells in embryos which provides similar conditions with in vivo microenvironment with a new project which is funded by TUBITAK.

We have a cell culture laboratory, micromanupilator, western blot apparatus(Bio-Rad) and also our university has a common research labs which have BD Facs Aria II flow cytometer (we are using permanently for cell sorting), micro array and photospectrometer.

Relevant Recent Publications of our lab;

1. Comparison of cell cycle components, apoptosis and cytoskeleton-related molecules and therapeutic effects of flavopiridol and geldanamycin on the mouse fibroblast, lung cancer and embryonic stem cells. Aktug H, Acikgoz E, Uysal A, Oltulu F, Oktem G, Yigitturk G, Demir K, Yavasoglu A, Bozok Cetintas V. Tumour Biol. 2016 Sep;37(9):12423-12440.
2. Enhanced G2/M Arrest, Caspase Related Apoptosis and Reduced E-Cadherin Dependent

Intercellular Adhesion by Trabectedin in Prostate Cancer Stem Cells. Acikgoz E, Guven U, Duzagac F, Uslu R, Kara M, Soner BC, Oktem G. PLoS One. 2015 Oct 20;10(10):e0141090. doi: 10.1371/journal.pone.0141090.

3. Immunoexpressions of embryonic and nonembryonic stem cell markers (Nanog, Thy-1, c-kit) and cellular connections (connexin 43 and occludin) on testicular tissue in thyrotoxicosis rat model. Oltulu F, Aktug H, Uysal A, Turgan N, Oktem G, Erbas O, Yavasoglu NK, Yavasoglu A. Hum Exp Toxicol. 2015 Jun;34(6):601-11.

4. Altered Stem Cell Receptor Activity in the Ovarian Surface Epithelium by Exogenous Zinc and/or Progesterone. Oktem G, Sahin C, Dilsiz OY, Demiray SB, Goker EN, Tavmergen E. Drug Res (Stuttg). 2015 May;65(5):252-8.

5. JAK/STAT pathway interacts with intercellular cell adhesion molecule (ICAM) and vascular cell adhesion molecule (VCAM) while prostate cancer stem cells form tumor spheroids. Duzagac F, Inan S, Ela Simsek F, Acikgoz E, Guven U, Khan SA, Rouhrazi H, Oltulu F, Aktug H, Erol A, Oktem G. J BUON. 2015 Sep-Oct;20(5):1250-7.

6. Induced growth inhibition, cell cycle arrest and apoptosis in CD133+/CD44+ prostate cancer stem cells by flavopiridol. Soner BC, Aktug H, Acikgoz E, Duzagac F, Guven U, Ayla S, Cal C, Oktem G. Int J Mol Med. 2014 Nov;34(5):1249-56.

7. Cancer stem cell differentiation: TGFβ1 and versican may trigger molecules for the organization of tumor spheroids. Oktem G, Sercan O, Guven U, Uslu R, Uysal A, Goksel G, Ayla S, Bilir A.Oncol Rep. 2014 Aug;32(2):641-9. doi: 10.3892/or.2014.3252.

8. Expression profiling of stem cell signaling alters with spheroid formation in $CD133_{high}/CD44_{high}$ prostate cancer stem cells. Oktem G, Bilir A, Uslu R, Inan SV, Demiray SB, Atmaca H, Ayla S, Sercan O, Uysal A. Oncol Lett. 2014 Jun;7(6):2103-2109.

9. WNT1 gene expression alters in heterogeneous population of prostate cancer cells; decreased expression pattern observed in CD133+/CD44+ prostate cancer stem cell spheroids. Goksel G, Bilir A, Uslu R, Akbulut H, Guven U, Oktem G. J BUON. 2014 Jan-Mar;19(1):207-14.