Cellular Functional Testing and Acquisition (Ramot)

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Industrial Research Services:

1. Bone cells in culture – We offer a bone marrow derived bone-like tissue in culture for testing the effect of various factors, hormones, drugs etc. on bone cells proliferation, differentiation and mineralization.

The model is described in the following papers:
a. S. Pitaru, S. Kotev-Emeth, D. Noff, S. Kaffuler, N. Savion; Effect of basic fibroblast growth factor on the growth and differentiation of adult stromal bone marrow cells: enhanced development of mineralized bone-like tissue in culture. J. Bone Mineral Res. 8: 919-929, 1993.
b. S. Pri-Chen, S. Pitaru, F. Lokiec, N. Savion; Basic Fibroblast Growth Factor enhances the growth and expression of the osteogenic phenotype of dexamethasone treated human bone marrow derived bone-like cells in culture. Bone 23:111-117, 1998.
c. S. Kotev-Emeth, S. Pitaru, S. Pri-Chen, N. Savion; Establishment of a rat long-term culture expressing the osteogenic phenotype: dependence on Dexamethasone and FGF-2. Connective Tissue Res. 43: 606-612, 2002.

2. Vascular endothelial cells in culture – The cultures are available for testing the effect of various factors, hormones, drugs, cells etc. on endothelial cells integrity, function and thrombogenicity. Tests can be done under static and flow conditions.
The model is described in the following paper:
a. R. Dardik, D. Varon, I. Tamarin, A. Zivelin, O. Salomon, B. Shenkman, N. Savion.
Homocysteine and oxidized low density lipoprotein enhance platelet adhesion to endothelial cells under flow conditions: Distinct mechanisms of thrombogenic modulation. Thromb. Haemost. 83:338-344, 2000.

3. Platelet adhesion and activation under flow conditions - The Impact-R [Cone and plate(let) analyzer (CPA)] device is available for testing the effect of various agents and drugs etc., on platelet function, adhesion and aggregation, under close to physiological conditions (whole blood and flow).
The model is described in the following papers:
a. D. Varon, R. Dardik, B. Shenkman, S. Kotev-Emeth, N. Farzame, I. Tamarin, N. Savion; A new method for quantitative analysis of whole blood platelet interaction with extracellular matrix under flow conditions. Thromb. Res. 85:283-294, 1997. (doi: 10.1016/S0049-3848(97)00014-5)
b. B. Shenkman, Y. Einav, O. Salomon, D. Varon, N. Savion; Testing agonist-induced platelet aggregation by the Impact-R [Cone and plate(let) analyzer (CPA)]. Platelets, 19: 440-446, 2008. (DOI: 10.1080/09537100802082256)

4. Determination and regulation of glutathione cellular level – Cellular glutathione level can be tested in tissues and cells in culture. Vascular endothelial cells and various nerve derived cell lines can serve as models to study the effect of various agents on glutathione level and resistance to oxidative stress.
The model is described in the following paper:

a. L. Horev-Azaria, S, Eliav, N. Izigov, S. Pri-Chen, D. Mirelman, T. Miron, A. Rabinkov, M. Wilchek, J. Jacob-Hirsch, N. Amariglio, N. Savion; Allicin Up-Regulates Cellular Glutathione Level in Vascular Endothelial cells. Eur. J. Nutrition, 48: 67-74, 2009. (DOI 10.1007/s00394-008-0762-3)

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