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RESEARCH AREA

Main research fields investigated in Chemotaxis Research Group are

- (i) research on cell adhesion, chemotaxis and other basic cell physiological responses;
- (ii) phylogeny of cell signaling - studies in ciliated model cells;
- (iii) characterization of 'Chemotaxome', the novel category of systems biology.

An underlined, ongoing project of the Research Group is to develop conjugates of drug-targeting available for different kinds of molecular delivery (chemotactic drug targeting) in tumors, atherosclerosis etc. The most significant models are unicellular eukaryotes (*Tetrahymena pyriformis*) as well as several mammalian tumor cell lines. The Research Group is the host of the core facility of impedance based cell analytical research infrastructure (ECIS, xCELLigence) qualified as SKI by NEKIFUT/NKTH.

TECHNIQUES AVAILABLE IN THE LAB

Cell culturing, migration, chemotaxis and other cell physiology assays (e.g. proliferation, cell adhesion, internalization) impedimetry, holographic microscopy, assays performed on CellDiscoverer, HTS analysis.

SELECTED PUBLICATIONS

Kohidai, L., Vakkuri, O., Keresztesi, M., Leppaluoto, J., Csaba, G., (2002) Melatonin in the unicellular *Tetrahymena pyriformis*: effects of different lighting conditions. **Cell Biochem Funct** **20**: 3 pp. 269-272.

Lajkó, E., Bányai, P., Zámbo, Z., Kursinszki, L., Szőke, E., **Kohidai, L.** (2015) Targeted tumor therapy by *Rubia tinctorum* L.: Analytical characterization of hydroxy-anthraquinones and investigation of their selective cytotoxic, adhesion and migration modulator effects on melanoma cell lines. (A2058 and HT168-M1) **Cancer Cell Int** **15 Paper**: 119.

Kohidai, L., Lajko, E., Pallinger, E., Csaba, G. (2012) Verification of epigenetic inheritance in a unicellular model system: multigenerational effects of hormonal imprinting. **Cell Biol Int** **36**: 10 pp. 951-959.

Kohidai, L., Csaba, G., Laszlo, V., (1990) Persistence of receptor memory induced in *tetrahymena* by insulin imprinting. **Acta Microbiol Hung** **37** pp. 269-275.

Kohidai, L., (1995) method for determination of chemoattraction in *tetrahymena-pyriformis*. **Current Microbiology** **30**: 4 pp. 251-253.