

Zebra fish model (Ramot)

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The circadian clock system: from molecular mechanisms to physiology and behavior

Research methods:

Molecular genetics in whole animal, the zebrafish; Transgenesis and gene manipulation; Behavior (mainly locomotor activity rhythms).

Available Research Services

Analysis of circadian rhythms of locomotor activity of wild type zebrafish and of mutants with advanced (short) or delayed (long) circadian rhythms in response to specific compounds.

Examples:

Tovin A, Alon S, Ben-Moshe Z, Mracek P, Vatine G, Foulkes N, Jacob-Hirsch J, Rechavi G, Toyama R, Coon SL, Klein DC, Eisenberg E, Gothilf Y (2012). Systematic identification of rhythmic genes reveals camk1gb as a new element in the circadian clockwork. PLoS Genet. 8(12): e1003116.

Smadja-Storz S, Tovin A, Mracek P, Alon S, Foulkes N, Gothilf Y (2013) Casein kinase 1delta activity: a key element in the zebrafish circadian timing system. PLoS One. 8(1):e54189.

Daya A, Vatine GD, Becker-Cohen M, Tal-Goldberg T, Gothilf Y, Du S-J, Stella Mitrani-Rosenbaum S (2014) Gne depletion during zebrafish development impairs skeletal muscle structure and function. Human Molecular Genetics. 23(13):3349-3361.

Ben-Moshe Z, Alon S, Mracek P, Faigenbloom L, Tovin A, Vatine G, Eisenberg E, Foulkes SN, Gothilf Y (2014). The light-induced transcriptome of the zebrafish pineal gland reveals complex regulation of the circadian clockwork by light. Nucleic Acids Research. 42(6): 3750-3767.

Potential industries

1. Pharma
2. Biotech

<http://gothilflab.wix.com/gothilflab>

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