

Aurelio Teleman

1998 - BA in Biochemistry, Harvard University, USA
2004 - Ph.D., Imperial College London & EMBL
2006-7 Staff Scientist European Molecular Biology
Laboratory
2007- Junior Group Leader, DKFZ

Current Research

The lab works on two fundamental problems of animal biology relevant to cancer biology:

(1) Molecular mechanisms of insulin signaling.

Insulin signaling regulates several important aspects of animal physiology, including carbohydrate metabolism, lipid metabolism, tissue growth and aging. When insulin signaling becomes aberrant, it leads to metabolic diseases such as diabetes and obesity, as well as cancer. Despite having been studied for many years, the molecular mechanisms of insulin signaling are not fully understood. Components are still missing, and the molecular outputs of the pathway remain elusive. Several projects in the lab aim at studying new components of insulin signaling, as well as better understanding how outputs of the pathway regulate cell behavior.

(2) **Control of tissue growth.** During animal development, tissues grow tremendously in size. For instance, during *Drosophila* development, the wing is specified as a group of 50 cells which then proliferate to yield a tissue with 50,000 cells. When tissues reach their correct final size, the cells in the tissue stop proliferating. The molecular mechanism by which this occurs is still mysterious. The *Drosophila* wing has become one of the principal model systems to study this problem. Presumably, the molecular pathways that control this process are linked to the re-initiation of proliferation that occurs in cancer.

Contact:

Aurelio Teleman
DKFZ
Room 1.314
Im Neuenheimer Feld 580
69120 Heidelberg

Tel: +49 6221-42-1620
Fax: +49 6221-42-1629
Email: a.teleman@dkfz.de
<http://www.dkfz.de/en/signal-transduction-cancer/index.html>



Future Projects and Goals

1. Identification of new components of the insulin signaling pathway.
2. Discovery of new genes regulating tissue growth during animal development.

Selected Publications

1. Teleman AA et al. Nutritional control of protein biosynthetic capacity by insulin via Myc in *Drosophila*. (2008) **Cell Metabolism**. 7:21-32.
2. Teleman AA and Cohen SM. *Drosophila* lacking microRNA miR-278 are defective in energy homeostasis. (2006) **Genes Dev** 20:417-22
3. Teleman AA et al. *Drosophila* melted modulates FOXO and TOR activity. (2005) **Dev Cell** 9:271-81
4. Teleman AA and Cohen SM. Dpp gradient formation in the *Drosophila* wing imaginal disc. (2000) **Cell** 103:971-80



Location of adipose tissue in a fruit fly, revealed by adipose tissue-specific expression of GFP.