



BIOL2212 Development genetics

[30h+15h exercises] 3.5 credits

This course is taught in the 1st semester

Teacher(s): René Rezsöházy
Language: French
Level: Second cycle

Aims

To introduce the student to the comprehension of the mechanisms of embryogenesis genetic control. Emphasis is also put on the experimental methodologies having brought the most recent progress in the analysis of the molecular mechanisms that control the development.

Main themes

We will first look upon the integrity of the genome and to its alterations (deletions, amplifications) during the development. The epigenetic modifications of DNA are highlighted by experimental analysis of imprinting and inactivation of chromosome X. We also describe the gain of studies on polytenic chromosomes and on imaginary discs of insects during the development by the homeogenes in the *Drosophila*. The homeogenes in the mouse are described in detail. Finally, we study the contribution of transgenic animals in the comprehension of genetic mechanisms implied in the embryonal development.

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Prerequisites: characteristics of embryonic development in the great subkingdoms, genetics, molecular genetics and main molecular biology methods.

Support: articles, reference books.

Students will learn polytenic chromosomes, imaginary discs, homeotic mutations, ES cells and transgenic mice.

Other credits in programs

BIOL22/A	Deuxième licence en sciences biologiques (Biologie moléculaire, cellulaire et humaine)	(3.5 credits)
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