

A proposal of Practice Rotation classes (150 hours; 5 ECTS) by Department of Functional Genomics

The aim of the course is to independently plan and carry out an experiment to assess the selected gene polymorphism related to caffeine metabolism and the impact of this compound on cells.

During the course, students:

1. Conduct a literature review on caffeine (systemic metabolism, molecular mechanisms of action, pharmacokinetics).
2. Analyze the literature and databases on known polymorphisms related to caffeine metabolism and the regulation of gene expression.
3. Present their analyzes as a presentation of the results.
4. Based on literature data, students will choose one gene related to caffeine metabolism and propose to study its polymorphism by planning and writing a protocol for the classes.
5. Based on literature, students will present a proposal on how to study the effect of caffeic acid on cells during *in vitro* assays.
6. With the help of the tutor, cellular assays will be selected that will allow to determine the effect of caffeine on cell viability, proliferation and apoptosis.
7. They will analyze the got research results.

Assessment methods and criteria:

presentation of independent work of literature data and databases (points 3 and 5, two presentations of 10 points)- 20points

final exam - test on the theoretical and practical part (analysis and interpretation) of the experimental results -20points