POSSIBLE PARTNERSHIP PROPOSAL

Dr. Cemil Göçmen, Çukurova University, Medical Faculty, Adana-TURKEY

RESEARCH INTERESTS: Basic concepts of environmental FP6 FOOD, 2nd Call (with deadline February 2004)

Thematic Priority: Food Quality and Safety

Topic title: Mediterranean olives and grapes secondary metabolites and their impact on healthy aging

Type of the instrument in this case:
Specific Targeted Research Projects (STREP)

Topic area: T6

Potential Impact: The protection of health by providing biological active foods to humans. The project is concentrated on biologically active compounds (secondary metabolites of olives and grapes; phenolic compounds) in olives and grapes. The innovation is to extract phenolic compounds from olives and grapes, and to investigate the pharmacological effects of the secondary metabolites of these biological active foods. This project will include epidemiological studies on the influence of Mediterranean diet and lifestyle on healthy aging or effects on humans.

Strategic objectives addressed

1. Phytochemical screening of Mediterranean olives and grapes samples involved in project.
2. Extraction of the secondary metabolites from the selected materials.
3. Fractionate and characterise antioxidant extract from olives and grapes.
4. Quantification of the active principles with a value for medicine.
5. Isolation and identification of new active compounds.
6. Characterisation of antitumoral effects
7. To investigate (in vitro and in vivo experimental condition) the impact of Mediterranean olives and grapes secondary metabolites on diabetic, arteriosclerotic and ageing animal models

8. Epidemiological studies on the influence of Mediterranean diet and lifestyle on healthy aging nor effects on humans

The consortium and project resources

Coordinator of the Turkish Group: Cukurova University, Faculty of Medicine, Department of Pharmacology

General duty of the coordinator: Planning and organization of the project, following the working of other participants, collecting, transferring and analysing data of experiments

Name of the Coordinator of the Turkish Group:
Assoc. Prof. Dr. Cemil Gocmen, MD (Male)

Address: Cukurova University, Medical Faculty, Department of Pharmacology 01330-Adana/ TURKEY

Tel: 00-90-322-3386060/ 3239-3240

Fax: 00-90-322-3386572

e- mail:
gocmen@cu.edu.tr
gocmence@hotmail.com

Research Group Size:
4 professors (3 woman scientist); 2 associate professors; 1 assistant professors; 8 research assistants (7 of whom are women); altogether 15 researchers.

Specific skills:
In the department of pharmacology of University of Cukurova, there are two main groups coordinated by Cemil Gocmen. The main interest of the first group is the smooth muscle pharmacology in cardiovascular system, urogenital system and gastrointestinal system. Their works are focused on nitrergic system, nitric oxide and S-nitrosothiols. In the last years the attention has also been paid to the design of oxidative stress due to diabetes and some divalent cations, and of new antioxidant therapy strategies on these oxidative stress models. The group has the enough equipment to study in vitro and in vivo pharmacological experiments. These includes isolated organ baths, isotonic, isometric and pressure transducers, bronchospasm transducer, polygraphs, data acquisition systems, perfusion and infusion pumps, cardio tacometer and the other necessary equipment. In this department, it can be also measured the blood, bladder and cavernosal pressure in anesthesized and conscious rats and mice. In conscious rats, it is investigated the modulation of the micturiton reflex. And also, it is investigated the relation between photorelaxation and nitric oxide with using ultraviolet lamps. In some experiments, it is studied the effects of some drugs on nephrotoxicity induced by some agents in rats. Also we have a calcium imaging system to measure the intracellular calcium amount in cell or tissue cultures. We will be able to determine the intarcellular calcium mobility in apopitotic cells. The main interest of the second group is neuropharmacology. This group has focused their studies on to relationship of various neurotransmitter system or ion-channels to behaviour and physiological functions. The role of certain neurotransmitter systems on the analgesic, antidepressant, anticonvulsive effects of drugs; the mechanism of alcohol dependence involving glutamatergic and opiatergic systems; the contribution of potassium channels and nitric oxide on the analgesic and antidepressant effects of drugs; the drugs affecting learning and memory are ongoing research area of this group.

Experimental methods and research tools used by neuropharmacology group: Hot-plate, tail-flick, abdominal constrictor tests for measuring analgesia, procedures for learning and memory, electroconvulsive shock, foot shock, and cold stress methods, stereotaxic applications, forced swimming test.

**Laboratory resources available:**
2. In vitro pharmacological studies: isolated organ baths, student stimulator, electrodes, isotonic or isometric transducers, polygraphs, data acquisition systems, UV lambs.
3. In vivo pharmacological studies: Perfusion pumps, infusion pumps, metabolic cages, urinary bladder pressure transducer, intracavernosal pressure transducer, cardio tacometer, blood pressure transducers, data acquisition systems
4. Additional resources available: Some chemicals, experimental animals (rat, mice and rabbit)
5. Intracellular calcium imaging system (FURA-2)

Present project partners from Turkey:
From Cukurova University
A. Medical Faculty: 7 groups
   Department of Medical Biology and Genetic
   Department of Biochemistry
   Department of Pathology
   Department of Biophysics
   Department of Urology
   Department of Bioistatic
   Department of Public Health
B. Food Engineering Faculty: 1 group

Present project partners from the other countries
Spain: 2 groups
Italy: 1 group

Possible Project Partners from the other countries: We are in contact.
Greece: 1 group
CZECH REPUBLIC: 1 group
**Possible topics suggested to the Coordinator of the Consortium for the success of the project**

My team may contribute to the project by investigating the pharmacological effects of polyphenolic compounds obtained from grape and olive on some pathological models in some experimental animals.

We need some new partners who will be able to study on the Strategic objectives mentioned above

**Publications of the Turkish coordinator**


