LA RICERCA FARMACOGNOSTICA: ENRICA BOSISIO

A) INFORMAZIONI PERSONALI

NOME	*Enrica*	**E-mail**	*enrica.bosisio@unimi.it*
COGNOME	*Bosisio*		
POSIZIONE	*Professore Associato*		

B) AFFILIAZIONE

ISTITUZIONE	*Dipartimento di Scienze farmacologiche*	**Web: http://**	*users.unimi.it/DPS*
LABORATORIO	*Laboratorio di Farmacognosia*	**Web: http://**	*users.unimi.it/csr/*
INDIRIZZO	Via Balzaretti 9, 20133 Milano		
TELEFONO	0250318372/45		
FAX	0250318391		

C) COMPONENTI DEL GRUPPO DI RICERCA

Team leader

1	*Enrica Bosisio*	

Others

2	*Mario Dell'Agli*	

D) LINEE DI RICERCA

The research activity of the laboratory is devoted to the study of natural products derived from medicinal or edible plants. The approach combines pharmacological and phytochemical investigations, in order to relate a biological effect to a specific chemical entity.

-1) Screening of plant extracts and isolated compounds for the discovery of new antimalarials
Plasmepsin II and IV, two aspartic proteases specifically present in the food vacuole of *Plasmodium falciparum* and other plasmodia, represent one of the pharmacological targets for the discovery of new antimalarials. The assay for testing the activity of the recombinant forms of these two proteins were developed and are in use for the study of plant extracts and isolated compounds.

2) Biological activity of plant polyphenols and other plant constituents.
Several assays have been developed for investigating the effects of plant extracts and isolated compounds on:
-neutrophil elastase activity,
-metalloproteinase 9 activity, secretion and expression,
-expression of adhesion molecules (ICAM-1, VCAM-1, E-Selectine),
-transcription factors and other mediators of inflammation/angiogenesis
-cAMP-phosphodiesterase activity and aggregation in human platelets
-human recombinant cGMP-phosphodiesterase 5 and 6 activities.

3) Lipolytic activity of plant products. This line of research is directed to identify plant constituents to be applied for cosmetic purposes. cAMP-phosphodiesterase inhibitors, which are able to stimulate lypolisis in the adipose tissue may be used in formulations for the local treatment of cellulitis and localized adiposity. At this regard, the effects of natural products are tested on rat adipocyte phosphodiesterase and on the lipolytic activity in 3T3-L1 adipocytes

4) Bioguided fractionation of plant extracts and HPLC-MS analysis

E) TECNOLOGIE

Spectrophotometry for enzyme activity assay, expression and purification of recombinant proteins, cell cultures (human fibroblasts, HepG2, CV-1, 3T3-L1, THP-1, COS-7, HEK-293, AGS), column chromatography, HPLC, mass spectrometry, radioassay, electrophoresis, western blotting.