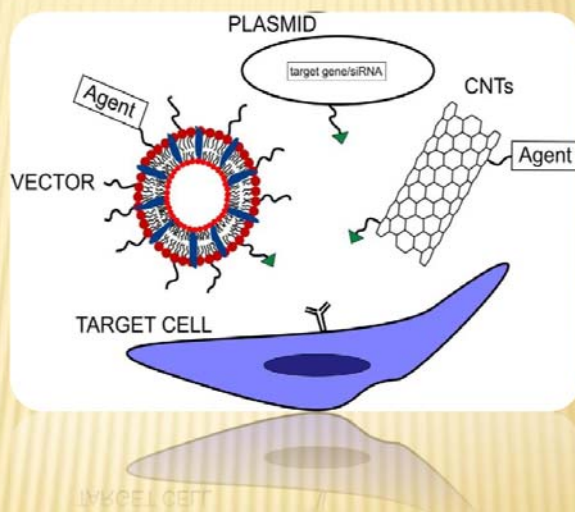


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Συνεδριακό Κέντρο Πανεπιστημίου Πατρών
Αίθουσα Ι-12, Παρασκευή 5 Νοεμβρίου 2010



Προσκεκλημένος ομιλητής
Καθηγητής **Mario Leclerc** (University of Laval, Quebec, Canada)
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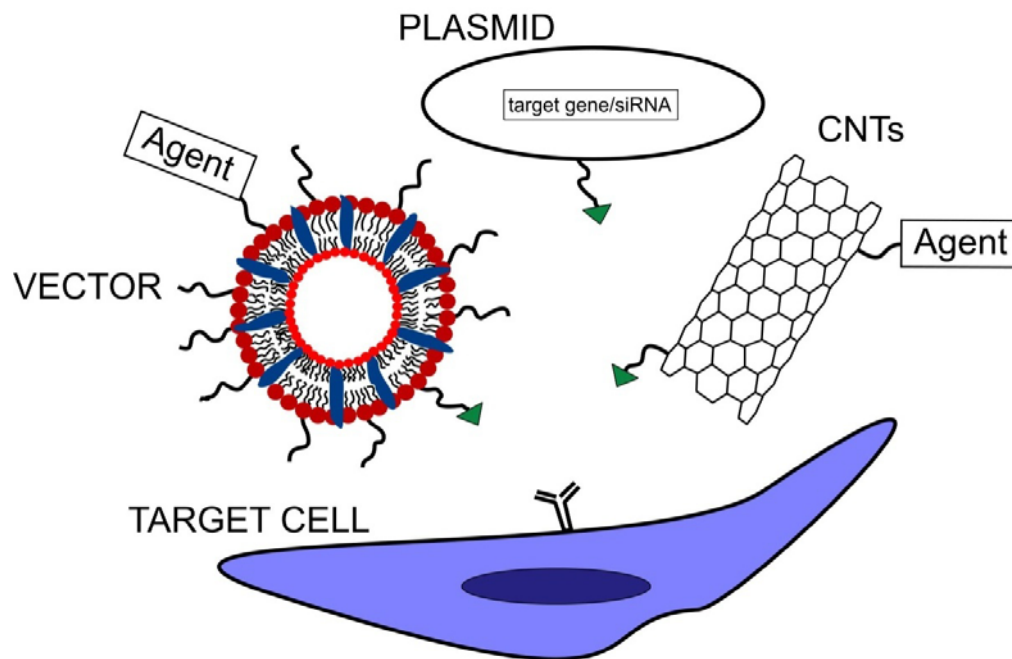
Πληροφορίες & πρόγραμμα: www.biotargeting.upatras.gr

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- 15 ομιλίες
- 33 posters
- 2 poster sessions

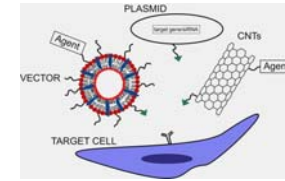
Πανεπιστήμιο Πατρών - University of Patras

*Ερευνητικό δίκτυο Βιοϊατρικών και
Βιοτεχνολογικών Εφαρμογών
Biotargeting: Biomedical and Biotechnological
Applications Research Network*



www.biotargeting.upatras.gr

Goals and Activities



The Principal goals of the Biotargeting network cover three directive axes that have diverse activities

1. **Pharmacotargeting of diseases**

- a. Study of the mechanisms underlying the pathobiology of diseases
- b. Search of therapeutic targets and
- c. Biological evaluation of pharmaceutical agents and system's evolution as well as application of procedures, diagnostic and analytical tools

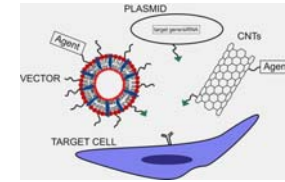
2. **Application of biocompatible materials in Medicine**

- a. Synthesis of Materials and Polymers
- b. *In vitro* and *in vivo* evaluation of biocompatibility, immunogenicity and biological properties, and
- c. Optimization control of drug delivery

3. **Convergence of the above axes via:**

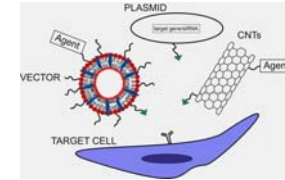
- a. Relation of structure-action
- b. Compound re-designing and new compositions
- c. Re-evaluation of their effectiveness

Structure of the network



- ❑ The network is a result of the collaboration of the research groups and researchers from:
 - Three Schools: Natural Sciences, Health Sciences and Polytechnic School
 - Six Departments (*Chemistry, Chemical Engineering, Medicine, Pharmacy, Material Science and Mechanical Engineering & Aeronautics*) of the University of Patras

Network Members



School of Natural Sciences

[Karamanos Nikos \(coordinator\)](#) – Professor, Biochemistry, Department of Chemistry and FORTH/ICE-HT

[Kallitsis Joannis](#) – Professor, Polymer Science, Department of Chemistry and FORTH/ICE-HT

[Galiotis Costas](#) - Director of FORTH/ ICE-HT, Patras, Greece and Professor - Department of Materials Science

[Bokias Georgios](#) – Assist. Professor , Polymer Science, Department of Chemistry

[Vynios Demitrios](#) – Professor, Biochemistry, Department of Chemistry

[Aletras Alexios](#) - Assoc. Professor, Biochemistry, Department of Chemistry

[Theocharis Achilles](#) – Assist. Professor, Biochemistry, Department of Chemistry

School of Health Sciences

[Kalofonos Haralabos](#) - Professor, Director of the Division of Oncology and Clinical Oncology Laboratory – Department of Medicine

[Makatsoris Thomas](#) – Assist. Professor, Clinical Oncology, Department of Medicine

[Panagiotopoulos Elias](#) – Professor, Orthopedic Surgery, Department of Medicine

[Gatzounis Georgios](#), Assist. Professor, Neurosurgery, Department of Medicine

[Antimisiaris Sophia](#) – Professor, Department of Pharmacy, collaborating faculty member of FORTH

[Papadimitriou Evangelia](#) – Assoc. Professor, Molecular Pharmacology, Department of Pharmacy

Polytechnic School

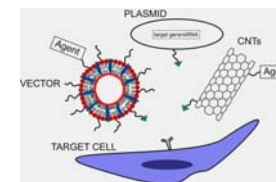
[Kostopoulos Basilis](#) - Professor, Director of Applied Mechanics & Vibrations Lab. – Department of Mechanical Engineering and Aeronautics

[Mavrilas Dimosthenis](#) – Assist. Professor , Biomechanics & Biomedical Engineering, Department of Mechanical Engineering & Aeronautics

[Panteliou Sofia](#) – Assoc. Professor - Department of Mechanical Engineering & Aeronautics

[Tsitsilianis Constantinos](#) – Professor, Polymer Science, Department of Chemical Engineering and collaborating faculty member of FORTH

Collaboration between members



ΕΡΕΥΝΗΤΙΚΗ ΟΜΑΔΑ

Καραμάνος Νίκος

Βύνιος Δημήτριος

Αλετράς Αλέξιος

Θεοχάρης Αχιλλέας

Παναγιωτόπουλος Ηλίας

Γκατζούνης Γεώργιος

Καλόφωνος Χαράλαμπος

Μακατσώρης Θωμάς

Παπαδημητρίου Ευαγγελία

Αντιμησιάρη Σοφία

Κωστόπουλος Βασίλης

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Μαυρίλας Δήμος

Καλλιτσης Ιωάννης

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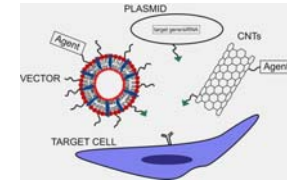
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Ενδεικτικό
σχεδιάγραμμα
που περιγράφει
τις συνεργασίες
μεταξύ των
μελών του
δικτύου.

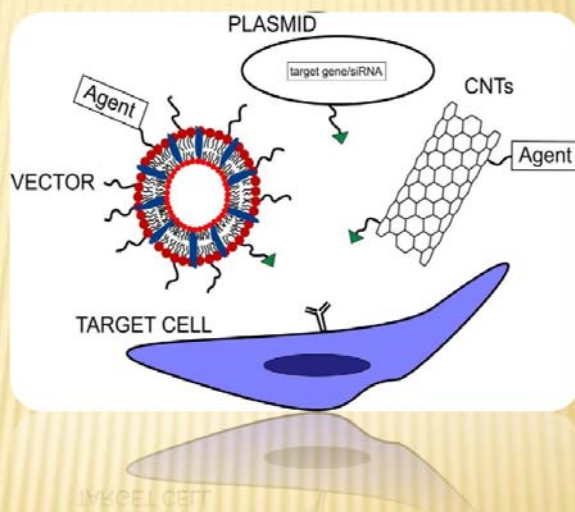


Website of the network

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Nikos K. Karamanos

*Dept. of Chemistry, Lab. of Biochemistry,
Univ. of Patras & ICE-HT/FORTH-Patras, Greece*

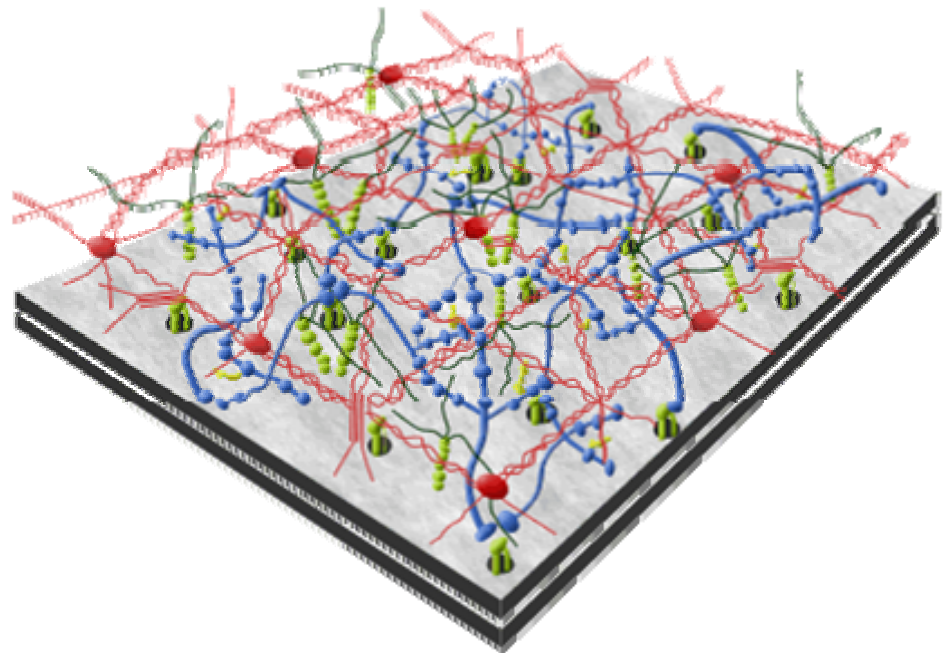
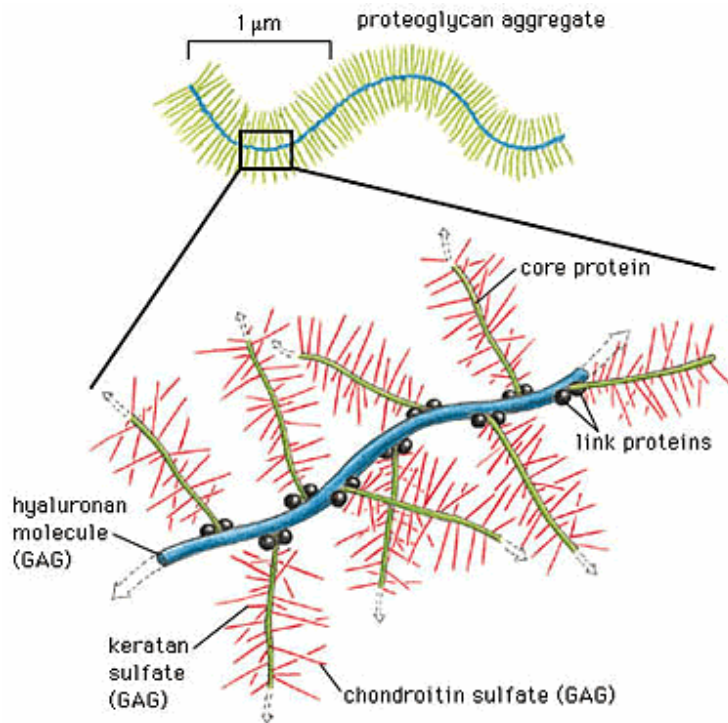
- www.chem.upatras.gr/faculty/karamanos
- www.publicationslist.org/n.k.karamanos
- www.researcherid.com/rid/A-3616-2008
 - www.biotargeting.upatras.gr
 - www.febs-mpst2011.upatras.gr

Main Research fields

- ✓ Matrix Pathobiochemistry, Matrix Effectors and Receptors
- ✓ Cell Signaling in Cancer Development
- ✓ Cell Models for Functional Invasiveness and Metastasis
- ✓ Molecular Targeting
- ✓ Biological Testing
- ✓ Biochemical Analysis of Matrix Macromolecules

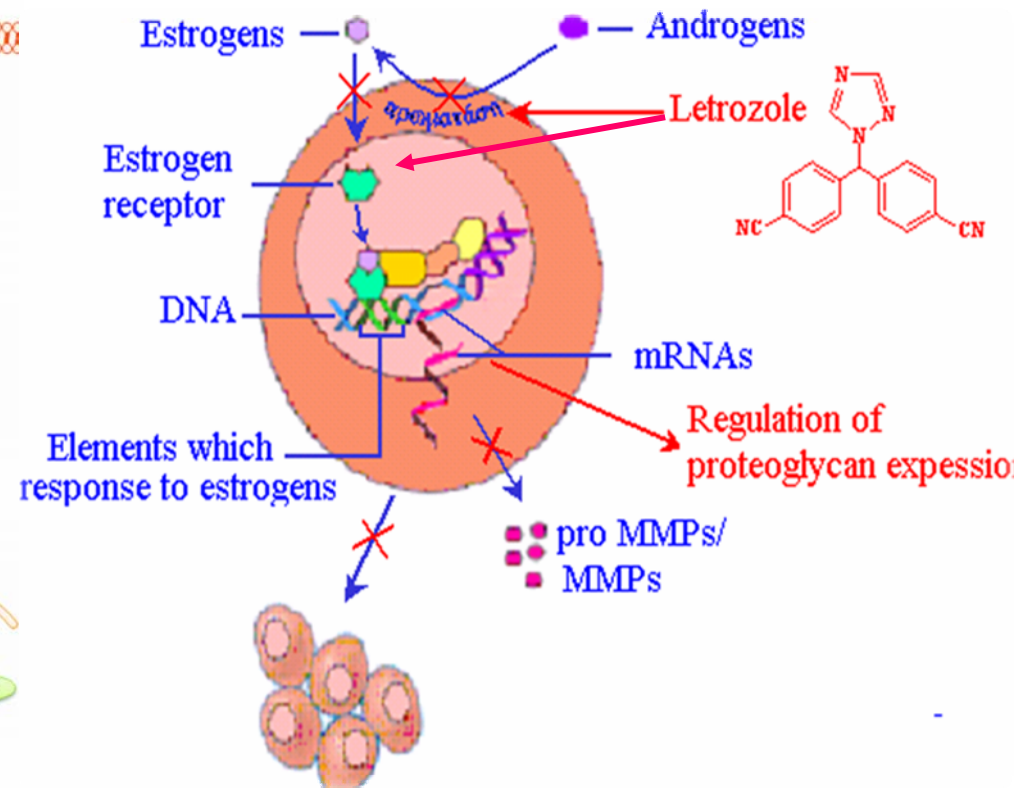
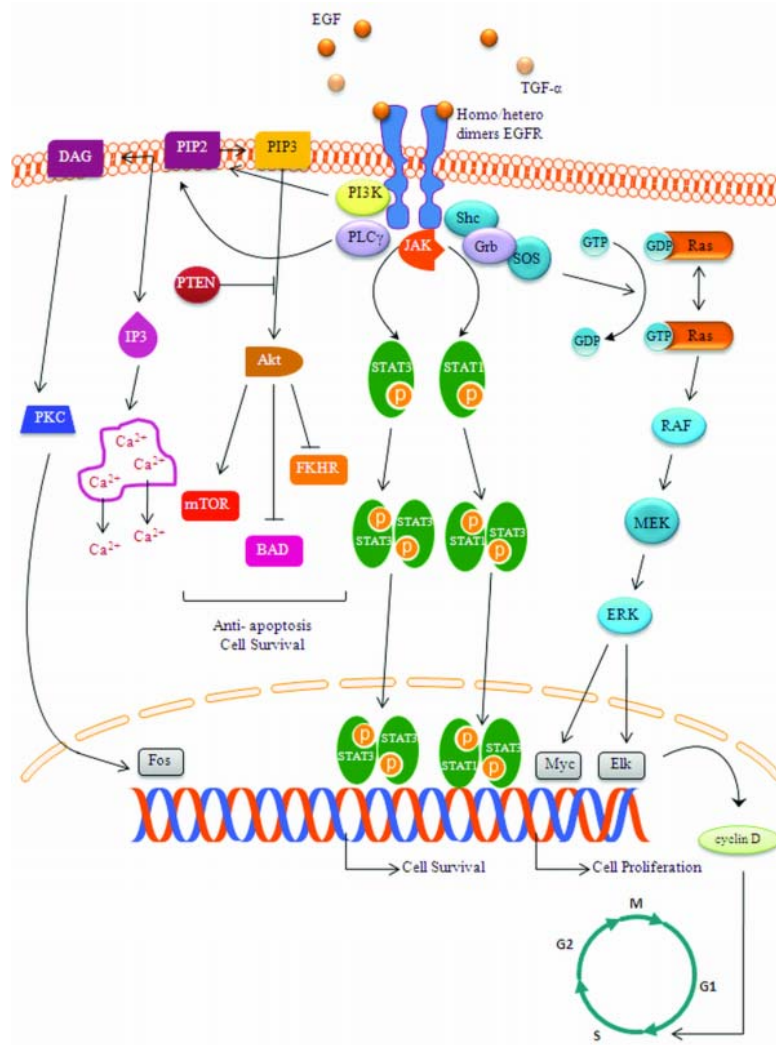
Research interests - 1

- Structure and functions of metalloproteinases (MMPs), cell bound and cell-secreted proteoglycans (PGs)/ glycosaminoglycans (GAGs) and acidic glyco- and sialoproteins in malignancy.



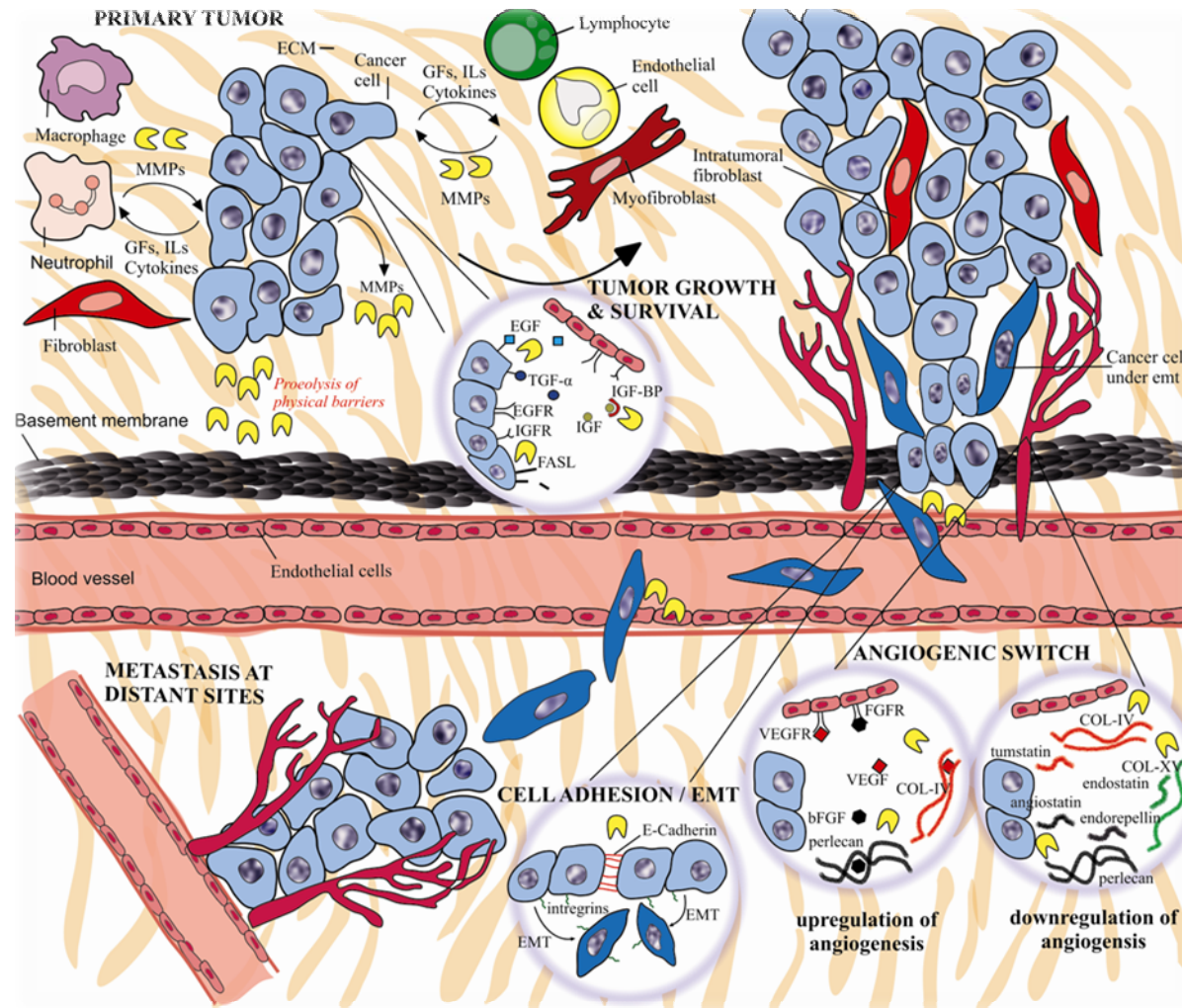
Research interests - 2

- Effects of growth factors and their receptors on signal transductions pathways related to gene expression and synthesis of MMPs and PGs



Research interests - 3

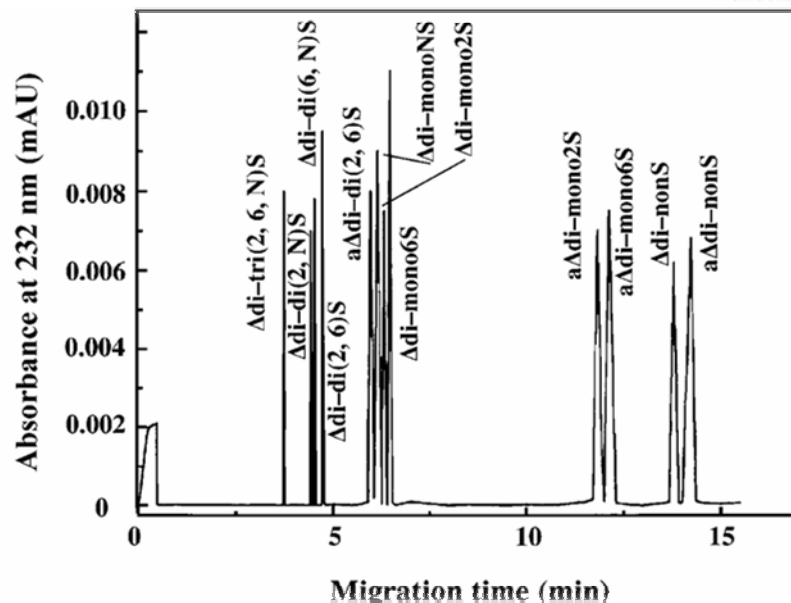
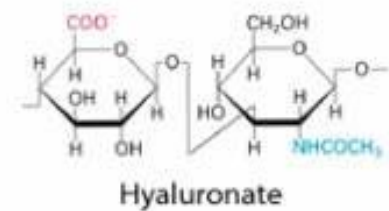
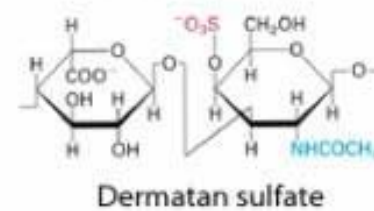
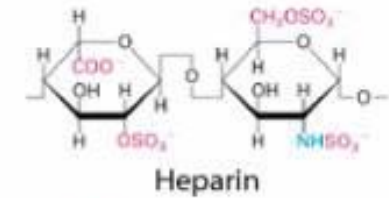
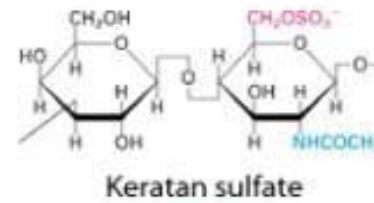
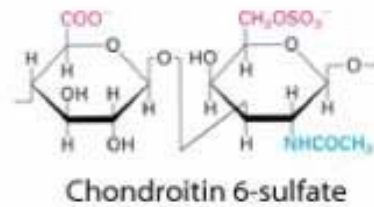
- Roles of MMPs in functional cancer cell growth, invasiveness and metastatic potential



Gialeli et al, FEBS J, 2010, in press

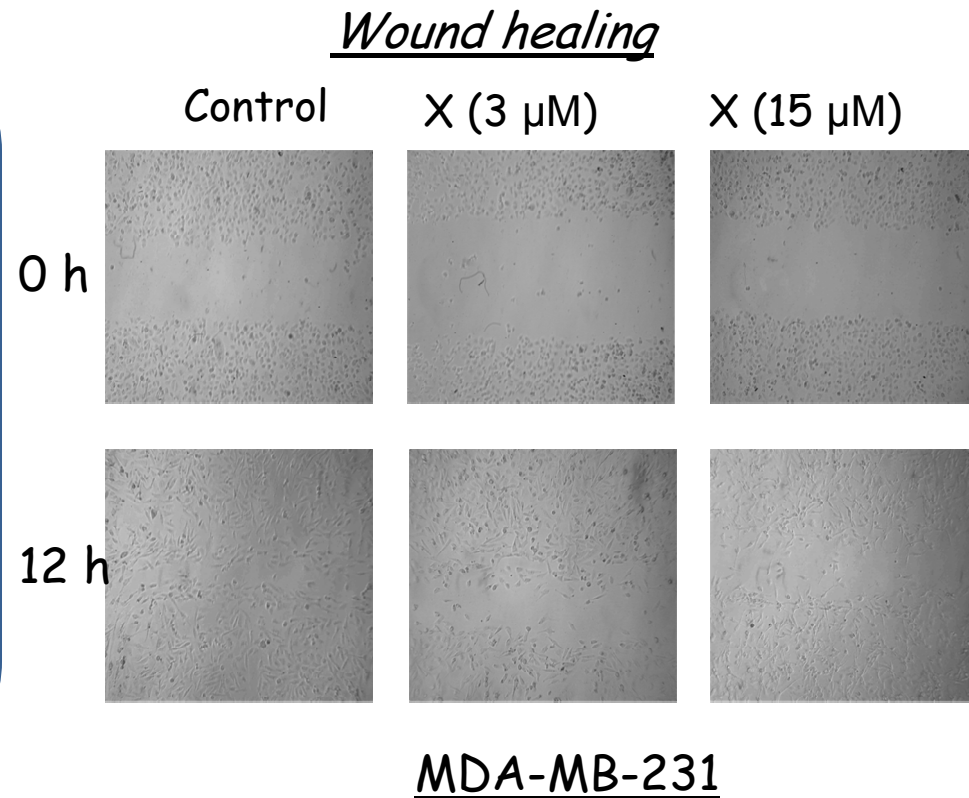
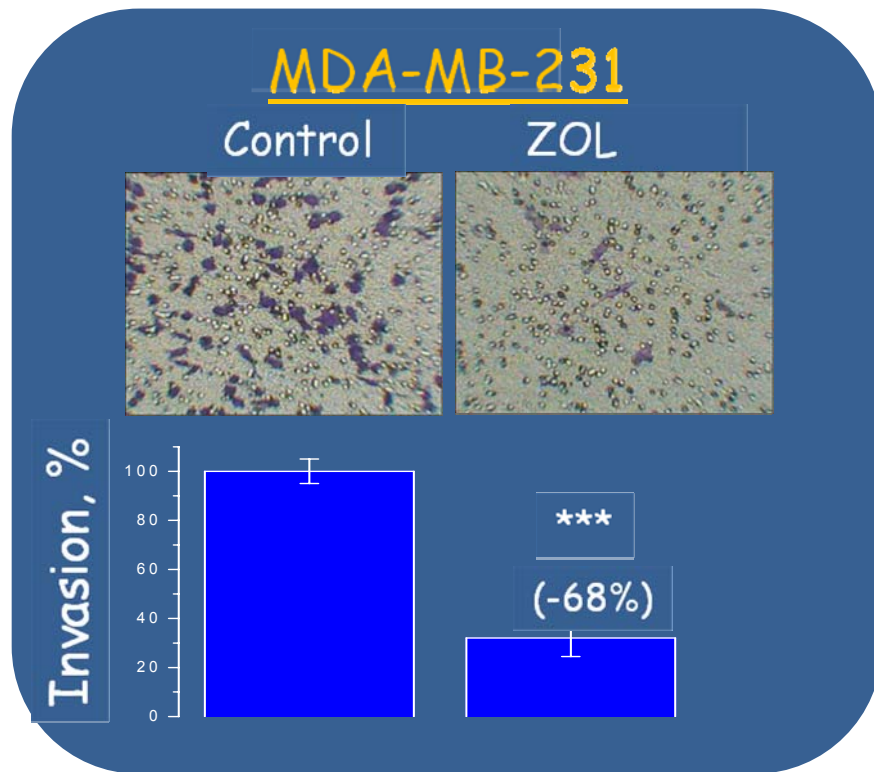
Research interests - 4

- long-lasting expertise in the development, validation and biological applications of very sensitive bioanalytical methods (hplc, capillary electrophoretic & solid phase assays) and their application to identify macromolecular structure-activity relationship of carbohydrates, proteoglycans and glycoproteins in biological samples (Cell cultures, tissues, biological matrices) in physiological and pathological conditions as well as in pharmacokinetic studies



Research interests - 5

- Biological evaluation, structure analysis and interactions of important biological molecules (growth factors/peptides, amino acid derivatives, synthetic compounds)



Future prospects

- Model for delivery of shRNA. This illustration depicts cellular uptake of plasmid Tf-PEG-PEI nanoparticles and the mechanism of action of shRNA