

Achilleas D. Theocharis, Ph.D., Associate Professor



SHORT PRESENTATION / PROFILE

Achilleas D. Theocharis is Associate Professor of Biochemistry & Molecular Biology at the University of Patras. I am member of the Hellenic Society of Biochemistry and Molecular Biology, American Society of Biochemistry and Molecular Biology and Hellenic Connective Tissue and Matrix Biology Research Society. My research interests are focused on the areas of matrix pathobiochemistry, cell signaling and molecular targeting. I am co-author in 86 publications in peer review international journals. My work is cited more than 2200 times and my H-index is 26.

Education, degrees & scientific carrier

- 1994 Diploma in Chemistry, Department of Chemistry, University of Patras.
- 1995 Visiting scientist, Department of Experimental Medical Sciences, Lund University.
- 1999 Visiting scientist, Karolinska Institute, Department of Immunology, Microbiology, Pathology and Infectious diseases.
- 2000 Ph.D in Biochemistry, Department of Chemistry, University of Patras.
- 2000-2002 Post-doctoral researcher, Department of Chemistry, University of Patras.
- 2002-2003 Post-doctoral researcher, Karolinska Institute, Department of Immunology, Microbiology, Pathology and Infectious diseases.
- 2003 Lecturer, Department of Chemistry, University of Patras.
- 2008-2014 Assistant Professor of Biochemistry & Molecular Biology, University of Patras.
- 2008-2009 Visiting Professor, Ludwig Institute for Cancer Research, Uppsala University, Sweden.
- 2012 Visiting Professor, Laboratory CRRET, University Paris 12 (UPEC), Paris, France
- 2014 Associate Professor of Biochemistry & Molecular Biology, University of Patras.

Honors / Awards & Editorial / Scientific Boards

- Fellowship of Hellenic Scholarship Foundation (1995-1999).
 - Fellowship from University of Lund, Department of Cell and Molecular Biology, Section for Connective Tissue Biology (1996).
 - Fellowship from Karolinska Institute, Department of IMPI (1999).
 - Award from Leonidas Zervas Foundation (1999).
 - Award from Hellenic Society of Biochemistry and Molecular Biology (2000).
 - Post-doctoral Fellowship of Hellenic Scholarship Foundation (2002).
 - Fellowship from Federation of European Biochemical Societies (2002).
 - Fellowship from Federation of European Biochemical Societies (2008).
- A number of awards have been conferred by various Scientific Societies, among them the Biochemical & Molecular Biology Society, Society for Anticancer Research, Federation of European Connective Tissue Societies, etc.

Reviewer in peer-review journals: (Nature Reviews Urology, Journal of Biological Chemistry, PlosOne, Osteoarthritis and Cartilage, European Journal of Cell Biology, Inflammation Research, Connective Tissue Research, BMC Cancer, Andrology, Experimental Gerontology, BBA Molecular Cell Research, BBA General Subjects, FEBS Journal, Experimental Cell Research, Journal of Cellular and Molecular Medicine, etc).

Editorial board: Matrix Biology

Guest Editor: Special Issue: "Cellular Microenvironment in Human Pathologies" in BioMed Research International.

Book Section Editor: In Extracellular Matrix: Pathobiology and Signaling, edited by N. Karamanos, DeGruyter 2012.

Organization of workshops, meetings/symposia

- European Training Program in Microseparation Techniques (ECOSEP 1). An environmental imperative on microscale analytical techniques Patras, Greece (1998).
- FEBS Advanced Lecture Course: Matrix Pathobiology, Signaling & Molecular Targets, Patras, Greece (2007) www.chemistry.upatras.gr/febs-mpst2007.
- 2th Congress of Biosciences in University of Patras, Patras, Greece (2007).
- 33rd FEBS Congress - 11th IUBMB Conference Athens, Greece (2008).
- FEBS Advanced Lecture Course: Matrix Pathobiology, Signaling & Molecular Targets, Patras, Greece (2009) www.febs-mpst2009.upatras.gr.
- FEBS Advanced Lecture Course: Matrix Pathobiology, Signaling & Molecular Targets, Spetses, Greece (2011) www.febs-mpst2011.upatras.gr
- FEBS Advanced Lecture Course: Matrix Pathobiology, Signaling & Molecular Targets, Kos, Greece (2013) www.febs-mpst2013.upatras.gr
- FEBS Advanced Lecture Course: Matrix Pathobiology, Signaling & Molecular Targets, Rhodes, Greece (2015) www.febs-mpst2015.upatras.gr

Teaching experience-Trainees

Undergraduate teaching: Basic Elements of Biology and Physiology, Clinical Chemistry, Biochemistry I, Biochemistry II (laboratory practice).

Graduate teaching: Courses M.Sc. & Ph.D.: Cell Biology, Molecular Biology, Molecular Biology & Molecular Biotechnology, Clinical Biochemistry, Analytical Chemistry & Clinical Biochemistry, Advanced Biochemistry, Applied Biochemistry and Biotechnology (laboratory practice).

Trainees: Supervisor for 3 Ph.D. and 5 M.Sc. awarded studies. 3 Ph.D. and 3 M.Sc. under progress. Member of the advisory / evaluation board for Ph.D. students (10 times) and M.Sc. students (12 times).

Member of the evaluation board for Ph.D. students at the University of Tromso (second opponent: Ph.D. Nabin Malla, Department of Medical Biology, Faculty of Health Sciences, University of Tromso-2011) and University of Oslo (first opponent: Ph.D. Trine Marita Reine, Department of Nutrition, Institute of Basic Medical Sciences, Faculty of Medicine, University of Oslo-2013).

Administrative experience

Member of the General Assembly of the Division of Organic Chemistry, Biochemistry and Natural Products at the Department of Chemistry

Member of the General Assembly at the Department of Chemistry (2004-)

Member /departmental coordinator of the committee of Erasmus Programme (2004-)

Member of the Erasmus Programme Coordination at the University of Patras (2010-2012)

Member of the committee of Hygiene and Safety at the Department of Chemistry (2006-)

Member of the Board of Directors at the Company of Exploitation and Management for the Property of the University of Patras (2014-)

Collaborations and Research Networks

International Collaborations:

University of Paris 12, France (Prof. S. Menashi, E. Huet).

Karolinska Institute, School of Medicine, Sweden (Prof. A. Hjerpe, K. Dobra).

University of Uppsala, Sweden (Prof. C.H. Heldin, A. Moustakas, P. Heldin).

University of Lund, Sweden (Prof. A.M. Blom).

University of Trondheim, Norway (Prof. M. Borset, A. Sundan).

University of Oslo, Norway (Prof. S. Kolset, K. Prydz, H. Tveit).

University of Nantes, France (Prof. D. Heymann).

National Collaborators:

University of Patras, School of Medicine (Prof. H. Kalofonos, D. Papachristou).

University of Athens, School of Medicine (Prof. E. Terpos).

Institute of Biology "Demokritos" (Dr. D. Kletsas).

University of Crete, School of Medicine (Prof. G. Tzanakakis, A. Zafiropoulos).

Member of the Scientific Research Network: Biotargeting - Biomedical and Biotechnological Applications Research Network (www.biotargeting.upatras.gr).

Research Project

Coordination of 3 National and 1 International Research Projects. Co-investigator in 2 National Research Projects.

List of Peer-Reviewed Publications

1. Theocharis AD, Karamanos NK, Tsegenidis T. Isolation and analysis of a novel polysaccharide from the case of squid pen. *International Journal of Biological Macromolecules*, 26, 83-88 (1999).

2. Lamari F, Theocharis AD, Hjerpe A, Karamanos NK. Ultrasensitive capillary electrophoresis of sulfated disaccharides in chondroitin / dermatan sulfates by laser-induced fluorescence after derivatization with 2-aminoacridone. *Journal of Chromatography B*, 730, 129-133 (1999).

3. Theocharis AD, Tsolakis I, Tsegenidis T, Karamanos NK. Human abdominal aortic aneurysm is closely associated with compositional and specific structural modifications at the glycosaminoglycan level. *Atherosclerosis*, 145, 359-368 (1999).

4. Theocharis AD, Tsara ME, Papageorgakopoulou N, Karavias DD, Theocharis DA. Pancreatic carcinoma is characterized by elevated content of hyaluronan and chondroitin sulfate with altered disaccharide composition. *Biochimica et Biophysica Acta, Molecular Basis of Disease* 1502, 201-206 (2000).

5. Theocharis AD, Tsolakis I, Hjerpe A, Karamanos NK. Human abdominal aortic aneurysm is characterized by decreased versican concentration and specific downregulation of versican isoform V0. *Atherosclerosis*, 154, 367-376 (2001).

6. Mitropoulou TN, Theocharis AD, Stagiannis KD, Karamanos NK. Identification, quantification and fine structural characterization of glycosaminoglycans from uterine leiomyoma and normal myometrium. *Biochimie*, 83, 529-536 (2001).

7. Theocharis AD, Tsara ME, Papageorgakopoulou N, Vynios DH, Theocharis DA. Characterization of glycosaminoglycans from human normal and scoliotic nasal cartilage with particular reference to dermatan sulfate. *Biochimica et Biophysica Acta, General Subjects* 1528, 81-88 (2001).

8. Papageorgakopoulou N, Theocharis AD, Skandalis SS, Vynios DH, Theocharis DA, Tsiganos CP. Keratan sulphate in cerebrum, cerebellum and brainstem of sheep brain. *Biochimie* 83, 973-978 (2001).

9. Theocharis AD, Karamanos NK, Papageorgakopoulou N, Tsiganos CP, Theocharis DA. Isolation and characterization of matrix proteoglycans from human nasal cartilage. Compositional and structural comparison between normal and scoliotic tissues. *Biochimica et Biophysica Acta, General Subjects* 1569, 117-126 (2002).

10. **Theocharis AD**, Theocharis DA. High performance capillary electrophoretic analysis of hyaluronan and galactosaminoglycan-disaccharides in gastrointestinal carcinomas. Differential disaccharide composition as a possible tool-indicator for malignancies. *Biomedical Chromatography* 16, 157-161 (2002).
11. **Theocharis AD**, Theocharis DA, DeLuca G, Hjerpe A, Karamanos NK. Compositional and structural alterations of chondroitin and dermatan sulfates during the progression of atherosclerosis and aneurysmal dilatation of human abdominal aorta. *Biochimie* 84, 667-674 (2002).
12. Noulas AV, **Theocharis AD**, Karamanos NK, Papageorgakopoulou N, Feretis E, Theocharis DA. Pig vitreous gel: macromolecular composition with particular reference to hyaluronan-binding proteoglycans. *Biochimie* 84, 295-302 (2002).
13. **Theocharis AD**, Karamanos NK. Decreased biglycan expression and differential decorin localization in human abdominal aortic aneurysms. *Atherosclerosis* 165, 221-230 (2002).
14. Tsara ME, **Theocharis AD**, Theocharis DA. Compositional and structural alteration of proteoglycans in human rectum carcinoma with special reference to versican and decorin. *Anticancer Research*, 22, 2893-2898 (2002).
15. **Theocharis AD**. Human colon adenocarcinoma is associated with specific post-translational modifications of versican and decorin. *Biochimica et Biophysica Acta, Molecular Basis of Disease* 1588 165-172 (2002).
16. **Theocharis AD**, Papageorgakopoulou N, Feretis E, Theocharis DA. Occurrence and structural characterization of versican-like proteoglycan in human vitreous. *Biochimie*, 84, 1235-1241 (2002).
17. Papageorgakopoulou N, **Theocharis AD**, Skandalis SS, Vynios DH, Theocharis DA, Tsiganos CP. Immunological studies of sheep brain keratan sulfate proteoglycans. *Biochimie*, 84, 1223-1226 (2002).
18. **Theocharis AD**, Vynios DH, Papageorgakopoulou N, Skandalis SS, Theocharis DA. Altered content composition and structure of glycosaminoglycans and proteoglycans in the gastric carcinoma. *International Journal of Biochemistry and Cell Biology*, 35, 376-390 (2003).
19. Skandalis SS, **Theocharis AD**, Papageorgakopoulou N, Zagris N. Glycosaminoglycans in early chick embryo. *International Journal of Developmental Biology*, 47, 311-314 (2003).
20. Makatsori E, Lamari FN, **Theocharis AD**, Anagnostides S, Tseggenidis T, Karamanos NK. Large matrix proteoglycans, versican and perlecan, are expressed and secreted by human leukemic monocytes. *Anticancer Research*, 23, 3303-3309 (2003).
21. **Theocharis AD**, Tsolakis I, Hjerpe A, Karamanos NK. Versican undergoes specific alterations in the fine molecular structure and organization in human aneurysmal abdominal aortas. *Biomedical Chromatography*, 17, 411-416 (2003).
22. Seidel C, Gulyas M, David G, Dobra K, **Theocharis AD**, Hjerpe A. A sandwich ELISA for the estimation of human syndecan-2 and syndecan-4 in biological samples. *Journal of Pharmaceutical and Biomedical Analysis*, 34, 797-801 (2004).
23. Skandalis SS, **Theocharis AD**, Vynios DH, Theocharis DA, Papageorgakopoulou N. Proteoglycans in human laryngeal cartilage. Identification of proteoglycan types in successive cartilage extracts with particular reference to aggregating proteoglycans. *Biochimie*, 86, 221-229 (2004).
24. Mitropoulou T, **Theocharis AD**, Nikitovic D, Karamanos NK, Tzanakakis GN. IGF-I affects glycosaminoglycan/proteoglycan synthesis in breast cancer cells through tyrosine kinase-dependent and -independent pathways. *Biochimie*, 86, 251-259 (2004).

25. Skandalis SS, **Theocharis AD**, Theocharis DA, Papadas T, Vynios DH, Papageorgakopoulou N. Matrix proteoglycans are markedly affected in advanced laryngeal squamous cell carcinoma. *Biochimica et Biophysica Acta, Molecular Basis of Disease*, 1689, 152-161 (2004).
26. Roussidis AE, Mitropoulou TN, **Theocharis AD**, Kiamouris C, Papadopoulos S, Kletsas D, Karamanos NK. STI571 as a potent inhibitor of growth and invasiveness of human epithelial breast cancer cells. *Anticancer Research*, 24, 1445-1448 (2004).
27. Kousidou O Ch, Roussidis AE, **Theocharis AD**, Karamanos NK. Expression of MMPs and TIMPs genes in human breast cancer epithelial cells depends on cell culture conditions and is associated with their invasive potential. *Anticancer Research*, 24, 4025-4030 (2004).
28. Kousidou O Ch, Mitropoulou TN, Roussidis AE, Kletsas D, **Theocharis AD**, Karamanos NK. Genistein suppresses the invasive potential of human breast cancer cells through transcriptional regulation of metalloproteinases and their tissue inhibitors. *International Journal of Oncology*, 26, 1101-1109 (2005).
29. Kalea AZ, Lamari FN, **Theocharis AD**, Cordopatis P, Schuschke DA, Karamanos NK, Klimis-Zacas DJ. Wild blueberry (*Vaccinium angustifolium*) consumption affects the composition and structure of glycosaminoglycans in Sprague-Dawley rat aorta. *Journal of Nutritional Biochemistry*, 17, 109-116 (2006).
30. Kalea AZ, Lamari FN, **Theocharis AD**, Schuschke DA, Karamanos NK, Klimis-Zacas DJ. Dietary magnese affects the concentration, composition and sulfation pattern of heparin sulfate glycosaminoglycans in Sprague-Dawley rat aorta. *BioMetals*, 19, 535-546 (2006).
31. Nikitovic D, Zafiroopoulos A, Katonis P, Tsatsakis A, **Theocharis AD**, Karamanos NK, Tzanakakis GN. Transforming growth factor- β as a key molecule triggering the expression of versican isoforms V0 and V1, hyaluronan synthase-2 and synthesis of hyaluronan in malignant osteosarcoma cells. *IUBMB Life*, 58, 1-7 (2006).
32. Georgakopoulos CD, Exarchou AM, Gartaganis SP, Kolonitsiou F, Anastassiou ED, Dimitracopoulos G, Hjerpe A, **Theocharis AD**, Karamanos NK. Immunization with specific polysaccharide antigen reduces alterations in corneal proteoglycans during experimental slime-producing staphylococcus epidermidis keratitis. *Current Eye Research*, 31, 137-146 (2006).
33. Skandalis SS, **Theocharis AD**, Vynios DH, Papageorgakopoulou N, Hjerpe A, Karamanos NK, Theocharis DA. Cartilage aggrecan undergoes significant compositional and structural alterations during laryngeal cancer. *Biochimica et Biophysica Acta General Subjects*, 1760, 1046-1053 (2006).
34. Skandalis SS, **Theocharis AD**, Papageorgakopoulou N, Vynios DH, Theocharis DA. The increased accumulation of structurally modified versican and decorin is related with the progression of laryngeal cancer. *Biochimie*, 88, 1135-1143 (2006).
35. **Theocharis AD**, Seidel C, Borset M, Dobra K, Baykov V, Labropoulou V, Kanakis I, Dalas E, Karamanos NK, Sundan A, Hjerpe A. Serglycin constitutively secreted by myeloma plasma cells is a potent inhibitor of bone mineralization in vitro. *Journal of Biological Chemistry*, 281, 3511-35128 (2006).
36. Labropoulou VT, **Theocharis AD**, Ravazoula P, Perimenis P, Hjerpe A, Karamanos NK, Kalofonos HP. Versican but not decorin accumulation is related to metastatic potential and neovascularization in testicular germ cell tumors. *Histopathology*, 49, 582-593 (2006).
37. Malavaki CJ, Asimakopoulou AP, Lamari FN, **Theocharis AD**, Tzanakakis GN, Karamanos NK. Capillary electrophoresis for the quality control of chondroitin sulfates in raw materials and formulations. *Analytical Biochemistry*, 374, 213-20 (2008).
38. Kilia V, Skandalis SS, **Theocharis AD**, Theocharis DA, Karamanos NK, Papageorgakopoulou N. Glycosaminoglycan in cerebrum, cerebellum and brainstem of young sheep brain with particular

reference to compositional and structural variations of chondroitin-dermatan sulfate and hyaluronan. *Biomedical Chromatography*, 22, 931-938 (2008).

39. Kousidou O, Berdiaki A, Kletsas D, Zafiropoulos A, **Theocharis AD**, Tzanakakis GN, Karamanos NK. Estradiol-estrogen receptor: a key interplay of the expression of syndecan-2 and metalloproteinase-9 in breast cancer. *Molecular Oncology*, 2, 223-232, (2008).

40. Sinouris EA, Skandalis SS, Kilia V, **Theocharis AD**, Theocharis DA, Ravazoula P, Vynios DH, Papageorgakopoulou N. Keratan sulfate-containing proteoglycans in sheep brain with particular reference to phosphacan and synaptic vesicle proteoglycan isoforms. *Biomedical Chromatography*, 23, 455-63 (2009).

41. Mania VM, Kallivokas AG, Malavaki C, Asimakopoulou AP, Kanakis J, **Theocharis AD**, Klironomos G, Gatzounis G, Mouzaki A, Panagiotopoulos E, Karamanos NK. A comparative biochemical analysis of glycosaminoglycans and proteoglycans in human orthotopic and heterotopic bone. *IUBMB Life*, 61, 447-452, (2009).

42. Skliris A, Happonen KE, Terpos E, Labropoulou V, Børset M, Heinegård D, Blom AM, **Theocharis AD**. Serglycin secreted by myeloma plasma cells inhibits the classical and the lectin pathways of complement via its glycosaminoglycan chains and may interfere with immunotherapy. *European Journal of Immunology*, 41, 437-49 (2011).

43. Skandalis SS, Labropoulou VT, Ravazoula P, Likaki-Karatza E, Dobra K, Karamanos NK, Kalofonos HP, **Theocharis AD**. Versican but not decorin accumulation is related to malignancy in mammographically detected high density and malignant-appearing microcalcifications in non-palpable breast carcinomas. *BMC Cancer* 11:314 (2011).

44. Milia-Argeiti E, Huet E, Labropoulou VT, Mourah S, Fenichel P, Karamanos NK, Menashi S, **Theocharis AD**. Imbalance of MMP-2 and MMP-9 Expression Versus TIMP-1 and TIMP-2 Reflects Increased Invasiveness of Human Testicular Germ Cell Tumors. *International Journal of Andrology* 2012, 35, 835-44.

45. Dedes PG, Gialeli Ch, Tsonis AI, Kanakis I, **Theocharis AD**, Kletsas D, Tzanakakis GN, Karamanos NK. Expression of matrix macromolecules and functional properties of breast cancer cells are modulated by the bisphosphonate zoledronic acid. *Biochimica et Biophysica Acta, General Subjects*, 1820, 1926-39 (2012).

46. Porsch H, Bernert B, Mehić M, **Theocharis AD**, Heldin CH, Heldin P. Efficient TGFβ-induced epithelial-mesenchymal transition depends on hyaluronan synthase HAS2. *Oncogene*, 29, (2012) doi: 10.1038/onc.2012.475.

47. Gialeli Ch, **Theocharis AD**, Kletsas D, Tzanakakis GN, Karamanos NK. Expression of matrix macromolecules and functional properties of EGF-responsive colon cancer cells are inhibited by panitumumab. *Invest New Drugs*, 31, 516-24 (2013).

48. Tsonis AI, Afratis N, Gialeli C, Ellina MI, Piperigkou Z, Skandalis SS, **Theocharis AD**, Tzanakakis GN, Karamanos NK. Evaluation of the coordinated actions of estrogen receptors with epidermal growth factor receptor and insulin-like growth factor receptor in the expression of cell surface heparan sulfate proteoglycans and cell motility in breast cancer cells. *FEBS J.* 280, 2248-59, (2013).

49. Malavaki CJ, Roussidis AE, Gialeli C, Kletsas D, Tsegenidis T, **Theocharis AD**, Tzanakakis GN, Karamanos NK. Imatinib as a key inhibitor of the platelet-derived growth factor receptor mediated expression of cell surface heparan sulfate proteoglycans and functional properties of breast cancer cells. *FEBS J.* 280, 2477-89, (2013).

50. Skliris A, Labropoulou VT, Papachristou DJ, Aletras A, Karamanos NK, **Theocharis AD**. Cell-surface serglycin promotes adhesion of myeloma cells to collagen type I and affects the expression of matrix metalloproteinases. *FEBS J.* 280, 2342-52 (2013).

51. Dedes PG, Kanakis I, Gialeli Ch, **Theocharis AD**, Tsegenidis T, Kletsas D, Tzanakakis GN, Karamanos NK. Preclinical evaluation of zoledronate using an in vitro mimetic cellular model for breast cancer metastatic bone disease. *Biochimica et Biophysica Acta General Subjects*, 1830, 3625-34 (2013).
52. Malla N, Berg E, **Theocharis AD**, Svineng G, Uhlin-Hansen L, Winberg JO. In vitro reconstitution of complexes between pro-matrix metalloproteinase-9 and the proteoglycans serglycin and versican. *FEBS J.* 280, 2870-87, (2013).
53. Labropoulou VT, Skandalis SS, Ravazoula P, Perimenis P, Karamanos NK, Kalofonos HP, **Theocharis AD**. Expression of syndecan-4 and correlation with metastatic potential in testicular germ cell tumours. *Biomed Research International*, 2013:214864, (2013).
54. Korpetinou A, Skandalis SS, Moustakas A, Happonen KE, Tveit H, Prydz K, Labropoulou VT, Giannopoulou E, Kalofonos HP, Blom AM, Karamanos NK, **Theocharis AD**. Serglycin is implicated in the promotion of aggressive phenotype of breast cancer cells. *PLoS One*, 31;8(10):e78157 (2013).
55. Milia-Argeiti E, Mourah S, Vallée B, Huet E, Karamanos NK, **Theocharis AD**, Menashi S. EMMPRIN/CD147-enriched membrane vesicles released from malignant human testicular germ cells increase MMP production through tumor-stroma interaction. *Biochimica et Biophysica Acta, General Subjects*, 1840, 2581-8 (2014).
56. Ellina MI, Bouris P, Aletras AJ, **Theocharis AD**, Kletsas D, Karamanos NK. EGFR and HER2 exert distinct roles on colon cancer cell functional properties and expression of matrix macromolecules. *Biochimica et Biophysica Acta, General Subjects*, 1840, 2651-61, (2014).
57. Asimakopoulou AP, Malavaki C, Afratis NA, **Theocharis AD**, Lamari FN, Karamanos NK. Validated capillary electrophoretic assays for disaccharide composition analysis of galactosaminoglycans in biologic samples and drugs/nutraceuticals. *Methods Molecular Biology*, 1229, 129-41, (2015).
58. Bouris P, Skandalis SS, Piperigkou Z, Afratis N, Karamanou K, Aletras AJ, Moustakas A, **Theocharis AD**, Karamanos NK. Estrogen receptor alpha mediates epithelial to mesenchymal transition, expression of specific matrix effectors and functional properties of breast cancer cells. *Matrix Biology, Apr*;43:42-60 (2015).
59. Filou S, Korpetinou A, Kyriakopoulou D, Bounias D, Stavropoulos M, Ravazoula P, Papachristou DJ, **Theocharis AD**, Vynios DH. ADAMTS Expression in Colorectal Cancer. *PLoS One.* 18, 10(3), e0121209, (2015).
60. Giannopoulou E, Nikolakopoulos A, Kotsirilou D, Lampropoulou A, Raftopoulou S, Papadimitriou E, **Theocharis AD**, Makatsoris T, Fasseas K, Kalofonos HP. Epidermal growth factor receptor status and Notch inhibition in non-small cell lung cancer cells. *J Biomed Sci.* Oct 24;22:98. doi: 10.1186/s12929-015-0196-1. (2015)
61. Korpetinou A, Papachristou DJ, Lampropoulou A, Bouris P, Labropoulou VT, Noulas A, Karamanos NK, **Theocharis AD**. Increased Expression of Serglycin in Specific Carcinomas and Aggressive Cancer Cell Lines. *Biomed Res Int.* 2015;2015:690721. doi: 10.1155/2015/690721.

List of Review Articles

1. Kanakis I, **Theocharis AD**, Noulas AV, Karamanos NK. State of the art on biochemical markers in metastatic bone disease and the role of bisphosphonates as therapeutic agents. *Current Pharmaceutical Analysis*, 1, 222-235 (2005).
2. Kozanidou VI, **Theocharis AD**, Georgiadis A, Voulgari PV, Drosos AA, Karamanos NK. Signal transduction by IL-2 and its receptors as target in treatment of rheumatoid arthritis. *Current Drug Targets, Immune, Endocrine & Metabolic Disorders*, 5, 41-50 (2005).

3. **Theocharis AD**, Tsolakis I, Tzanakakis GN, Karamanos NK. Chondroitin sulfate as a key molecule in the development of atherosclerosis and cancer progression. *Advances in Pharmacology*, 53, 281-295 (2006).
4. Lamari FN, **Theocharis AD**, Asimakopoulou AP, Malavaki CJ, Karamanos NK. Metabolism and biochemical/physiological roles of chondroitin sulfates: analysis of endogenous and supplemental chondroitin sulfates in blood circulation. *Biomedical Chromatography*, 20, 539-550 (2006).
5. Malavaki C, Kanakis I, **Theocharis AD**, Lamari FN, Karamanos NK. Hyaluronan determination: biological significance & analytical tools. *Current Pharmaceutical Analysis*, 3, 117-128 (2007).
6. Roussidis AE, **Theocharis AD**, Tzanakakis GN, Karamanos NK. The importance of c-kit and PDGF receptors as potential targets for molecular therapy in breast cancer. *Current Medicinal Chemistry*, 14, 735-743 (2007).
7. **Theocharis AD**. Versican in health and disease. *Connective Tissue Research*, 49, 230-234, (2008).
8. Theocharis DA, Skandalis SS, Noulas AV, Papageorgakopoulou N, **Theocharis AD**, Karamanos NK. Hyaluronan and chondroitin sulfate proteoglycans in the supramolecular organization of the mammalian vitreous body. *Connective Tissue Research*, 49, 124-128, (2008).
9. Asimakopoulou AP, **Theocharis AD**, Tzanakakis GN, Karamanos NK. The biological role of chondroitin sulfate in cancer and chondroitin-based anticancer agents. *In Vivo*, 22, 385-389, (2008).
10. Karangelis DE, Kanakis I, Asimakopoulou AP, Karousou E, Passi A, **Theocharis AD**, Triposkiadis F, Tsilimingas NB, Karamanos NK. Glycosaminoglycans as Key Molecules in Atherosclerosis: The Role of Versican and Hyaluronan. *Current Medicinal Chemistry*, 17, 4018-26. (2010).
11. **Theocharis AD**, Skandalis SS, Tzanakakis GN, Karamanos NK. Proteoglycans in health and disease: novel roles for proteoglycans in malignancy and their pharmacological targeting. *FEBS Journal*, 277, 3904-3923, (2010).
12. Labropoulou VT, **Theocharis AD**, Symeonidis A, Skandalis SS, Karamanos NK, Kalofonos HP. Pathophysiology and Pharmacological Targeting of Tumor-Induced Bone Disease: Current Status and Emerging Therapeutic Interventions. *Current Medicinal Chemistry*, 18, 1584-98 (2011).
13. Malavaki CJ, **Theocharis AD**, Lamari FN, Kanakis J, Tsegenidis T, Tzanakakis GN, Karamanos NK. Heparan sulfate: biological significance, tools for biochemical analysis and structural characterization. *Biomedical Chromatography*, 25, 11-20 (2011).
14. Gialeli C, **Theocharis AD**, Karamanos NK. Roles of Matrix Metalloproteinases in Cancer Progression and their Pharmacological Targeting. *FEBS Journal*, 278, 16-27 (2011).
15. Skandalis SS, Aletras AJ, Gialeli C, **Theocharis AD**, Afratis N, Tzanakakis GN, Karamanos NK. Targeting the tumor proteasome as a mechanism to control the synthesis and bioactivity of matrix macromolecules. *Current Molecular Medicine Sep;12(8):1068-82* (2012).
16. Afratis N, Gialeli C, Nikitovic D, Tsegenidis T, Karousou E, **Theocharis AD**, Pavão MS, Tzanakakis GN, Karamanos NK. Glycosaminoglycans: key players in cancer cell biology and treatment. *FEBS J. Apr;279(7):1177-97* (2012).
17. Vigetti D, Götte M, Pavão MS, **Theocharis AD**. Cellular microenvironment in human pathologies. *Biomed Res Int.* 2013;2013:946958. doi: 10.1155/2013/946958. (2013).
18. Skandalis SS, Afratis N, Smirlaki G, Nikitovic D, **Theocharis AD**, Tzanakakis GN, Karamanos NK. Cross-talk between estradiol receptor and EGFR/IGF-IR signaling pathways in estrogen-responsive breast cancers: Focus on the role and impact of proteoglycans. *Matrix Biol. Apr;35:182-93.* (2014).
19. Gialeli C, Nikitovic D, Kletsas D, **Theocharis AD**, Tzanakakis GN, Karamanos NK. PDGF/PDGFR Signaling and Targeting in Cancer Growth and Progression: Focus on Tumor Microenvironment and Cancer-Associated Fibroblasts. *Curr Pharm Des.* 20(17):2843-8 (2014).

- 20. Theocharis AD**, Gialeli C, Bouris P, Giannopoulou E, Skandalis SS, Aletras AJ, Iozzo RV, Karamanos NK. Cell-matrix interactions: focus on proteoglycan-proteinase interplay and pharmacological targeting in cancer. *FEBS J.* Nov;281(22):5023-42 (2014).
- 21.** Skandalis SS, Gialeli C, **Theocharis AD**, Karamanos NK. Advances and advantages of nanomedicine in the pharmacological targeting of hyaluronan-CD44 interactions and signaling in cancer. *Adv Cancer Res.* 123:277-317 (2014).
- 22.** Barbouri D, Afratis N, Gialeli C, Vynios DH, **Theocharis AD**, Karamanos NK. Syndecans as Modulators and Potential Pharmacological Targets in Cancer Progression. *Front Oncol.* 2014 Feb 3;4:4. eCollection 2014.
- 23.** Korpetinou A, Skandalis SS, Labropoulou VT, Smirlaki G, Noulas A, Karamanos NK, **Theocharis AD**. Serglycin: At the Crossroad of Inflammation and Malignancy. *Front Oncol.* 2014 Jan 13;3:327. eCollection 2014.
- 24. Theocharis AD**, Skandalis SS, Neill T, Mulhaupt HA, Hubo M, Frey H, Gopal S, Gomes A, Afratis N, Lim HC, Couchman JR, Filmus J, Ralph D S, Schaefer L, Iozzo RV, Karamanos NK. Insights into the key roles of proteoglycans in breast cancer biology and translational medicine. *Biochim Biophys Acta.* Mar 28;1855(2):276-300 (2015).
- 25. Theocharis AD**, Skandalis SS, Gialeli C, Karamanos NK. Extracellular matrix structure. *Adv Drug Deliv Rev.* 2015 Nov 10. pii: S0169-409X(15)00257-4. doi: 10.1016/j.addr.2015.11.001. (2015).