Achilleas D. Theocharis, Ph.D., Professor *Short CV*

Achilleas D. Theocharis is 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 115 publications in peer review international journals. My work is cited more than 12700 times and my H-index is 54 (*Google Scholar*).

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.
2003-2008	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.
2014-2019	Associate Professor of Biochemistry & Molecular Biology, University of Patras.
2019-	Professor of Biochemistry & Molecular Biology, University of Patras.

Indicators of Research Activity

- 115 Publications in peer-review journals
- 8950 Citations (Scopus, June 2024)
- 12700 Citations (Google Scholar, June 2024)
- h-index= 47 (Scopus, June 2024)
- h-index= 54 (Google Scholar, June 2024)
- 115 International Conference Publications
- 60 National Conference Publications
- 26 Invited Lectures

Honors & Awards

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.

Research proposal evaluator
Evaluation of Research Proposals in French National Research Agency (2022).
Evaluation of Research Proposals in "The American University of Beirut - Collaborative Research Stimulus (CRS) grants" Lebanon (2015).
Evaluation of Research Proposals in National Research, Development and Innovation Office, Hungary, (NKFIH) (2014).

Reviewer in peer-review journals*:* Nature Communications, Nature Reviews Urology, FEBS Journal, BBA Reviews on Cancer, Matrix Biology, Matrix Biology Plus, Frontiers in Cell and Developmental Biology, Molecules, Biomolecules, International Journal of Molecular Sciences, Pharmacology & Therapeutics, Molecular Biology reports, Archives Biochemistry and Biophysics, Advanced Drug Delivery Reviews, The Journal of Biological Chemistry, Osteoarthritis and Cartilage, Mechanisms of Ageing and Development, European Journal of Cell Biology, Gene, PlosOne, Inflammation Research, Connective Tissue Research, Andrology, BMC Cancer, BBA-General Subjects, BBA-Molecular Cell Research, Breast Cancer Research, Biomed Research International, Experimental Cell Research, Experimental Gerontology, Cogent Biology, Journal of Histochemistry & Cytochemistry, Bioscience Reports, Journal of Cellular and Molecular Medicine, Journal of Experimental & Clinical Cancer Research, Veterinary Pathology, Journal of Physiology and Biochemistry, Frontiers in Oncology, Biomaterials, Journal of Biomedical Science, Cell and Tissue Research, Seminars in Cancer Biology, etc).
Editorial board: American Journal of Physiology – Cell physiology, Biomolecules, Molecular Biology Reports, Matrix Biology, Matrix Biology Plus, Cancers
Associate Editor: Frontiers in Cell and Developmental Biology
Guest Editor: Special Issue: "Cellular Microenvironment in Human Pathologies" in BioMed Research International.
Book editor: "The Extracellular Matrix: Methods and Protocols In Series "Methods in Molecular Biology" Springer Science (2018) D. Vigetti, A.D. Theocharis (eds).
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).
- 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).
- FEBS Advanced Lecture Course: Matrix Pathobiology, Signaling & Molecular Targets, Spetses, Greece (2011).
- FEBS Advanced Lecture Course: Matrix Pathobiology, Signaling & Molecular Targets, Kos, Greece (2013).

- FEBS Advanced Lecture Course: Matrix Pathobiology, Signaling & Molecular Targets, Rhodes, Greece (2015).
- FEBS Advanced Lecture Course: Matrix Pathobiology, Signaling & Molecular Targets, Spetses, Greece (2017).
- FEBS Advanced Lecture Course: Extracellular Matrix: Cell Regulation, Epigenetics and Modeling, September 27th-October 2nd, Patras (2018).
- FEBS Advanced Lecture Course: Matrix Pathobiology, Signaling & Molecular Targets, Porto Heli, Greece (2019).
- FEBS Advanced Lecture Course: Matrix Pathobiology, Signaling & Molecular Targets, Crete, Greece (2022).
- 72th Congress of Hellenic Society for Biochemistry and Molecular Biology (HSBMB), Patras, Greece (2022).

Teaching experience-Trainees

Undergraduate teaching: Basic Elements of Biology and Physiology, General Biology, 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), Genetic and Molecular Basis of Diseases- Molecular Medicine.

Trainees: Supervisor / advisor for 9 Ph.D. and 40 M.Sc. students.

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 (2004-)

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

Head of the Division of Organic Chemistry, Biochemistry and Natural Products at the Department of Chemistry (2019-2020)

Head of the Department of Agriculture, University of Patras (May to August 2019)

Head of the Department of Chemistry, University of Patras (2020-)

Member of the Senate of the University of Patras (2020-)

Member /departmental coordinator of the committee of Erasmus Programme (2004-2019)

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 (2006-2019)

Member of the Board of Directors at the Company of Exploitation and Management for the Property of the University of Patras (2014-2017)

Member of the Board of Hellenic Society of Biochemistry & Molecular Biology (2020- / 2020-2022, General Secretary / 2024- Vice President)

International Collaborations and Research Networks

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 Tromso, Norway (Prof. J.O. Winberg, E. Knutsen).
University of Muenster, Germany (Prof. M. Gotte).
University of Varese, Italy (Prof. A. Passi, D. Vigetti).
Kimmel Cancer Center, Thomas Jefferson University, Philadelphia, USA (Prof. RV Iozzo).

Research Project
Principal Investigator/ Co-investigator in 19 International / National Research Projects.

List of Peer-Reviewed Publications
(https://www.scopus.com/authid/detail.uri?authorId=7003720000)

1. Labropoulou VT, Manou D, Ravazoula P, Alzahrani FM, Kalofonos HP, **Theocharis AD**. Expression of CD44 is associated with aggressiveness in seminomas. Mol Biol Rep. 2024 May 25;51(1):693.
2. Manou D, Golfinopoulou MA, Alharbi SND, Alghamdi HA, Alzahrani FM, **Theocharis AD**. The Expression of Serglycin Is Required for Active Transforming Growth Factor β Receptor I Tumorigenic Signaling in Glioblastoma Cells and Paracrine Activation of Stromal Fibroblasts via CXCR-2. Biomolecules. 2024 Apr 10;14(4):461.
3. Siatis KE, Giannopoulou E, Manou D, Sarantis P, Karamouzis MV, Raftopoulou S, Fasseas K, Alzahrani FM, Kalofonos HP, **Theocharis AD**. Resistance to hormone therapy in breast cancer cells promotes autophagy and EGFR signaling pathway. Am J Physiol Cell Physiol. 2023 Sep 1;325(3):C708-C720.
4. Piperigkou Z, Bainantzou D, Makri N, Papachristou E, Mantsou A, Choli-Papadopoulou T, **Theocharis AD**, Karamanos NK. Enhancement of mesenchymal stem cells' chondrogenic potential by type II collagen-based bioscaffolds. Mol Biol Rep. 2023 Jun;50(6):5125-5135.
5. Karagiorgou Z, Fountas PN, Manou D, Knutsen E, **Theocharis AD**. Proteoglycans Determine the Dynamic Landscape of EMT and Cancer Cell Stemness. Cancers, 2022, 14(21), 5328
6. Grigoropoulou S, Manou D, Antoniou AI, Tsirogianni A, Siciliano C, **Theocharis AD**, Athanassopoulos CM. Synthesis and Antiproliferative Activity of Novel Dehydroabietic Acid-Chalcone Hybrids. Molecules. 2022 Jun 5;27(11):3623. doi: 10.3390/molecules27113623.
7. Tellez-Gabriel M, Tekpli X, Reine TM, Hegge B, Nielsen SR, Chen M, Moi L, Normann LS, Busund LR, Calin GA, Mælandsmo GM, Perander M, **Theocharis AD**, Kolset SO, Knutsen E. Serglycin Is Involved in TGF-β Induced Epithelial-Mesenchymal Transition and Is Highly Expressed by Immune Cells in Breast Cancer Tissue. Front Oncol. 2022 Apr 14;12:868868. doi: 10.3389/fonc.2022.868868.
8. Piperigkou, Z. Manou, D. Bainantzou, D. **Theocharis, A.D.** Karamanos, N.K. The microRNA-Extracellular Matrix Interplay in Breast Cancer. Biology of Extracellular Matrix, 2022, 11, pp. 421–436.
9. Karamanos NK, **Theocharis AD**, Piperigkou Z, Manou D, Passi A, Skandalis SS, Vynios DH, Orian-Rousseau V, Ricard-Blum S, Schmelzer CEH, Duca L, Durbeej M, Afratis NA, Troeberg L, Franchi M, Masola V, Onisto M. A guide to the composition and functions of the extracellular matrix. FEBS J. 2021 Dec;288(24):6850-6912. doi: 10.1111/febs.15776.

10. Iozzo RV, **Theocharis AD**, Neill T, Karamanos NK. Complexity of matrix phenotypes. Matrix Biol Plus. 2020 May 28;6-7:100038.
11. Manou D, Bouris P, Kletsas D, Götte M, Greve B, Moustakas A, Karamanos NK, **Theocharis AD**. Serglycin activates pro-tumorigenic signaling and controls glioblastoma cell stemness, differentiation and invasive potential. Matrix Biology Plus in press (doi.org/10.1016/j.mbplus.2020.100033)
12. Manou D, Karamanos NK, **Theocharis AD**. Tumorigenic functions of serglycin: Regulatory roles in epithelial to mesenchymal transition and oncogenic signaling. Semin Cancer Biol. 2019 Jul 4. pii: S1044-579X(19)30040-9. doi: 10.1016/j.semcancer.2019.07.004.
13. **Theocharis AD**, Manou D, Karamanos NK. The extracellular matrix as a multitasking player in disease. FEBS J. 2019 Aug;286(15):2830-2869.
14. Manou D, Caon I, Bouris P, Triantaphyllidou IE, Giaroni C, Passi A,. Karamanos NK, Vigetti D, **Theocharis AD**. The complex interplay between extracellular matrix and cells in tissues. Methods Mol Biol. 2019;1952:1-20.
15. Vigetti, D. **Theocharis, A.D**. Preface. Methods in Molecular Biology, 2019, 1952, pp. v–vi.
16. Karamanos NK, Piperigkou Z, **Theocharis AD**, Watanabe H, Franchi M, Baud S, Brézillon S, Götte M, Passi A, Vigetti D, Ricard-Blum S, Sanderson RD, Neill T, Iozzo RV. Proteoglycan Chemical Diversity Drives Multifunctional Cell Regulation and Therapeutics. Chem Rev. 2018 Sep 26;118(18):9152-9232.
17. Karamanos NK, **Theocharis AD**, Neill T, Iozzo RV. Matrix modeling and remodeling: A biological interplay regulating tissue homeostasis and diseases. Matrix Biol. 2018 Aug 18. pii: S0945-053X(18)30356-1. doi: 10.1016/j.matbio.2018.08.007.
18. Bouris P, Manou D, Sopaki-Valalaki A, Kolokotroni A, Moustakas A, Kapoor A, Iozzo RV, Karamanos NK, **Theocharis AD**. Serglycin promotes breast cancer cell aggressiveness: Induction of epithelial to mesenchymal transition, proteolytic activity and IL-8 signaling. Matrix Biol. 2018 May 26. pii: S0945-053X(18)30163-X. doi: 10.1016/j.matbio.2018.05.011.
19. Piperigkou Z, Manou D, Karamanou K, **Theocharis AD**. Strategies to Target Matrix Metalloproteinases as Therapeutic Approach in Cancer. Methods Mol Biol. 2018;1731:325-348.
20. Piperigkou Z, Götte M, **Theocharis AD**, Karamanos NK. Insights into the key roles of epigenetics in matrix macromolecules-associated wound healing. Adv Drug Deliv Rev. 2018 Apr;129:16-36.
21. **Theocharis AD**, Karamanos NK. Proteoglycans remodeling in cancer: Underlying molecular mechanisms. Matrix Biol. 2017 Nov 8. pii: S0945-053X(17)30313-X. doi: 10.1016/j.matbio.2017.10.008.
22. Afratis NA, Nikitovic D, Multhaupt HA, **Theocharis AD**, Couchman JR, Karamanos NK. Syndecans - key regulators of cell signaling and biological functions. FEBS J. 2017 Jan;284(1):27-41.
23. Afratis NA, Bouris P, Skandalis SS, Multhaupt HA, Couchman JR, **Theocharis AD**, Karamanos NK. IGF-IR cooperates with ERα to inhibit breast cancer cell aggressiveness by regulating the expression and localisation of ECM molecules. Sci Rep. 2017 Jan 12;7:40138.
24. Piperigkou Z, Bouris P, Onisto M, Franchi M, Kletsas D, **Theocharis AD**, Karamanos NK. Estrogen receptor beta modulates breast cancer cells functional properties, signaling and expression of matrix molecules. Matrix Biol. 2016 Dec; 56:4-23.
25. Afratis NA, Karamanou K, Piperigkou Z, Vynios DH, **Theocharis AD**. The role of heparins and nano-heparins as therapeutic tool in breast cancer. Glycoconj J. 2016 Oct 24.

26. 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 Mol Biol. 1229, 129-41, (2015).
27. 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).
28. 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).
29. 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).
30. 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.
31. **Theocharis AD**, Skandalis SS, Neill T, Multhaupt 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).
32. **Theocharis AD**, Skandalis SS, Gialeli C, Karamanos NK. Extracellular matrix structure. Adv Drug Deliv Rev. 2015 Nov 10. pii: S0169-409X(15)00257-4.
33. Milia-Argeiti E, Mourah S, Vallée B, Huet E, Karamanos NK, **Theocharis AD**, Menashi S. EMMPRIN/CD147-encriched 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).
34. 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).
35. 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).
36. 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).
37. **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).
38. 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).

39. 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.
40. 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 Jan 13.
41. 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).
42. 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).
43. 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).
44. 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).
45. 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).
46. 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).
47. 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).
48. 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).
49. 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).
50. **Theocharis, A.** Introduction. Extracellular Matrix: Pathobiology and Signaling, 2012, pp. 605–609.
51. **Theocharis, A**. Gialeli, C. Hascall, V. Karamanos, N.K. Extracellular matrix: A functional scaffold. Extracellular Matrix: Pathobiology and Signaling, 2012, pp. 3–19.
52. Karamanos, N.K. Gullberg, D. Paraskevi, H. **Theocharis, A.** Winberg, J.-O. Extracellular Matrix: Pathobiology and Signaling. Extracellular Matrix: Pathobiology and Signaling, 2012, pp. 1–888.
53. Skandalis, S.S. Gialeli, C. Afratis, N. **Theocharis, A.D.** Karamanos, N.K. Pharmacological targeting of proteoglycans and metalloproteinases: An emerging aspect in cancer treatment. Extracellular Matrix: Pathobiology and Signaling, 2012, pp. 785–801.

54. Korpetinou, A. Milia-Argeiti, E. Labropoulou, V. **Theocharis, A.** Serglycin: A novel player in the terrain of neoplasia. Extracellular Matrix: Pathobiology and Signaling, 2012, pp. 677–688.
55. 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.
56. 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).
57. 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.
58. 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).
59. 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).
60. 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).
61. 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).
62. 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).
63. 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).
64. Gialeli C, **Theocharis AD**, Karamanos NK. Roles of Matrix Metalloproteinases in Cancer Progression and their Pharmacological Targeting. FEBS Journal, 278, 16-27 (2011).
65. 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).
66. **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).
67. 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). 6
68. 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).
69. 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).
70. 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).
71. 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).
72. **Theocharis AD**. Versican in health and disease. Connective Tissue Research, 49, 230-234, (2008).
73. 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).
74. 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).
75. Malavaki C, Kanakis I, **Theocharis AD**, Lamari FN, Karamanos NK. Hyaluronan determination: biological significance & analytical tools. Current Pharmaceutical Analysis, 3, 117-128 (2007).
76. 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).
77. 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).
78. 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).
79. Nikitovic D, Zafiropoulos 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).
80. 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).

81. 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).
82. 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).
83. **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).
84. 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).
85. **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).
86. 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).
87. 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).
88. 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).
89. 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).
90. 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).
91. 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).
92. 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).
93. 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).

94. 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).
95. 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).
96. **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).
97. Skandalis SS, **Theocharis AD**, Papageorgakopoulou N, Zagris N. Glycosaminoglycans in early chick embryo. International Journal of Developmental Biology, 47, 311-314 (2003).
98. Makatsori E, Lamari FN, **Theocharis AD**, Anagnostides S, Tsegenidis T, Karamanos NK. Large matrix proteoglycans, versican and perlecan, are expressed and secreted by human leukemic monocytes. Anticancer Research, 23, 3303-3309 (2003).
99. **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).
100. **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).
101. **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).
102. **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).
103. 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).
104. **Theocharis AD**, Karamanos NK. Decreased biglycan expression and differential decorin localization in human abdominal aortic aneurysms . Atherosclerosis 165, 221-230 (2002).
105. 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).
106. **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).
107. **Theocharis AD**, Papageorgakopoulou N, Feretis E, Theocharis DA. Occurrence and structural characterization of versican-like proteoglycan in human vitreous. Biochimie, 84, 1235-1241 (2002).
108. 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).

109. **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).
110. 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).
111. **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).
112. Papageorgacopoulou 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).
113. **Theocharis AD**, Tsara ME, Papageorgacopoulou 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).
114. 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).
115. 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).
116. **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).