

Curriculum Vitae

Family name: **Aletras**
First name: **Alexios**
Position: Associate Professor of Biochemistry
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Education

1972-1977: Undergraduate studies in the Department of Chemistry, University of Patras, Diploma in Chemistry.

1978-1982: Post-graduate studies in the Department of Chemistry, University of Patras, accomplishment of PhD Thesis entitled: "Interaction of hyaline cartilage glycoproteins with hyaluronic acid and proteoglycans; characterization of proteoglycans".

1985: PhD in Biochemistry.

Academic career

1981-1986: Research Assistant in the Laboratory of Biochemistry, Department of Chemistry, University of Patras.

1987-1992: Lecturer of Biochemistry, Section of Organic Chemistry, Biochemistry and Natural Products, Department of Chemistry, University of Patras.

1992-2003: Assistant Professor of Biochemistry, Section of Organic Chemistry, Biochemistry and Natural Products, Department of Chemistry, University of Patras.

2003-today: Associate Professor of Biochemistry, Section of Organic Chemistry, Biochemistry and Natural Products, Department of Chemistry, University of Patras.

Teaching Experience

Under-graduated courses

1. Biochemistry II (Lectures, Tutorials)
2. Biochemistry I (Tutorials)
3. Biochemistry (Laboratory exercises)
4. Biochemistry III (Lectures, Tutorials, Laboratory exercises)

Post-graduated courses

1. Advanced Biochemistry
2. Molecular Pharmacology-Immunology
3. Organic and Biochemical Analysis
4. Applications in Biochemistry and Biotechnology (Laboratory exercises)

Research activities

1. Isolation and characterization of extracellular matrix macromolecules (glycosaminoglycans, proteoglycans, glycoproteins) from several types of connective tissue and study of their interactions.
2. Studies on extracellular matrix metalloproteinases (MMPs). Investigation of their role in several pathologic conditions such as, cancer proliferation and metastasis, arthritis, arthroplasty loosening, skin and lung diseases, and nasal polyposis.
3. Investigation of signal transduction pathways mediating the TNF- α and IL-1 β -induced expression of MMPs in human fibroblasts of different origin, including synovium, lung

and nasal polyps, as well as in chondrocytes from human articular cartilage. Study of the antagonistic effect of TGF- β 1 on the TNF- α and IL-1 β -induced production of MMPs.

4. The role of TGF- β 1 in the pathogenesis of arthritis, lung diseases and nasal polyposis. Study of its effect on the production of MMPs, TIMPs, cytokines and prostaglandins by synovial, lung and nasal polyps fibroblasts, and articular chondrocytes.
5. The role of proteasome in the pathogenesis of osteoarthritis and nasal polyposis. Study of its effect on the expression of MMPs, TIMPs, cytokines and collagen in fibroblasts and chondrocytes.

Trainees

Supervisor for 5 PhD and 12 MSc awarded studies. Two PhD and 2 MSc projects are under progress.

Member of Scientific Societies

1. Association of Greek Chemists
2. Hellenic Society of Biochemistry and Molecular Biology
3. Hellenic Society of Connective Tissue Research

Publications

Research Papers

1. D. H. Vynios, **A. Aletras**, C. P. Tsiganos, T. Tsegenidis, C. A. Antonopoulos, A. Hjerpe and B. Engfeld (1985),
Proteoglycans from squid cranial cartilage: extraction and characterization.
Comp. Biochem. Physiol. B 80: 761-766. (Impact Factor: 1.468)
2. **A. J. Aletras** and C. P. Tsiganos (1985),
In situ interaction of cartilage proteoglycans with matrix proteins.
Biochim.Biophys.Acta 840: 170-179. (Impact Factor: 2.713)
3. N. K. Karamanos, **A. J. Aletras**, C. A. Antonopoulos, T. Tsegenidis, C. P. Tsiganos and D.H. Vynios (1988),
Extraction and fractionation of proteoglycans from squid skin.
Biochim.Biophys.Acta 966: 36-43. (Impact Factor: 2.713)
4. G. Karakiulakis, E. Missirlis, **A. Aletras** and M. E. Maragoudakis (1988),
Degradation of intact basement membranes by human and murine tumor enzymes.
Biochim.Biophys.Acta 967: 163-175. (Impact Factor: 2.713)
5. G. Voukelatou, **A. J. Aletras** and E. D. Kouvelas (1989),
Identification of L-glutamate binding sites in chick brain by photoaffinity labeling.
Eur. J. Pharmacology 162: 179-183. (Impact Factor: 2.787)
6. N. K. Karamanos, **A. J. Aletras**, C. A. Antonopoulos, A. Hjerpe and C. P. Tsiganos (1990),
Chondroitin proteoglycans from squid skin; isolation, characterization and immunological studies.
Eur. J. Biochem. 192: 33-38. (Impact Factor: 3.139)
7. S. T. Anagnostides, **A. J. Aletras**, P. Lymberi and C. P. Tsiganos (1990),
Isolation and characterization of two glycoproteins from hyaline cartilage.
Eur. J. Biochem. 193: 905-912. (Impact Factor: 3.139)

8. **A.J. Aletras**, N. K. Karamanos and A. Hjerpe (1991),
Presence of the HNK-1 epitope (3-sulfoglucuronic acid) on oligosaccharides from squid skin chondroitin proteoglycans and degradation of proteoglycans by proteolytic enzymes.
Biochem. International 25: 331-338. (Impact Factor: 0.697)
9. N. K. Karamanos, **A. J. Aletras**, T. Tsegenidis, C. P. Tsiganos and C. A. Antonopoulos (1992),
Isolation, characterization and properties of the oversulphated chondroitin sulphate proteoglycan from squid skin with peculiar glycosaminoglycan sulphation pattern.
Eur. J. Biochem. 204: 553-560. (Impact Factor: 3.139)
10. G. Voukelatou, **A. J. Aletras**, T. Tsourinakis and E. D. Kouvelas (1992),
Glutamate-like immunoreactivity in chick cerebellum and optic tectum.
Neurochem. Res. 17: 1267 - 1273. (Impact Factor: 2.260)
11. N. K. Karamanos, **A. J. Aletras**, C. A. Antonopoulos and A. Hjerpe (1994),
Determination of the HNK-1 epitope (3-sulphated glucuronic acid) in intact chondroitin sulphates by ELISA. Application to squid skin proteoglycans and their oversulphated carbohydrate structures.
Biochimie 76: 79-82. (Impact Factor: 3.071)
12. E. Sivvas, G. Voukelatou, D. Papaioannou, **A. J. Aletras** and E. D. Kouvelas (1994),
A novel photoaffinity ligand for kainate sites labels two polypeptides with molecular mass 45 and 33.5 kDa in chick cerebellum.
J. Neurochem. 63: 1544-1550. (Impact Factor: 4.500)
13. M. E. Maragoudakis, P. Peristeris, E. Missirlis, **A. Aletras**, P. Andriopoulou and G. Haralabopoulos (1994),
Inhibition of angiogenesis by anthracyclines and Titanocene dichloride.
Ann NY AcadSci 732: 280-293. (Impact Factor: 2.303)
14. E. Papakonstantinou, G. Karakioulakis, **A. J. Aletras** and G. N. Misevic (1994),
A novel class of adhesion acidic glycans in sea urchin embryos. Isolation, characterization and immunological studies during early embryonal development.
Eur. J. Biochem. 224: 1067-1077. (Impact Factor: 3.139)
15. **A.J. Aletras**, K. Barlos, D. Gatos, S. Koutsogianni and P. Mamos (1995),
Preparation of the very acid sensitive Fmoc-Lys (Mtt)-OH. Application in the synthesis of side chain to side chain cyclic peptides and oligolysine cores suitable for the solid phase assembly of MAPs and TASP.s.
Int. J. Peptide Protein Res. 45: 488-496. (Impact Factor: 1.410)
16. N. Karamanos, A. Hjerpe, **A. Aletras**, T. Tsegenidis, E.D. Anastasiou and C.A. Antonopoulos (1995),
Antibodies to three chondroitin sulfate-containing proteoglycans in squid skin recognize hexa-or longer chondroitin oligosaccharides as major antigenic determinants.
Arch. Biochem. Biophys. 316: 100-109. (Impact Factor: 2.626)
17. G. Karakioulakis, C. Papanikolaou, S. M. Jankovic, **A. Aletras**, E. Papakonstantinou, E. Vretou and V. Mirtsou-Fidani (1998),

Increased type IV collagen-degrading activity in metastases originating from primary tumors of the human colon.

Invasion and Metastasis 17: 158-168. (Impact Factor: 0.886)

18. Makatsori, K. Fermani, **A. Aletras**, N.K. Karamanos, T. Tsegenidis (1998),
Screening of N-acylneuraminic acids in serum and tissue specimens of mouse C57Bl with Lewis' lung cancer by high-performance liquid chromatography.
J Chromatogr B 712: 23-29. (Impact Factor: 2.500)
19. E. Makatsori, **A. Aletras**, N. K. Karamanos and T. Tsegenidis (1998),
Analysis of N-acetyl and N-glycolylneuraminic acid in rat serum and tissues with Walker 256 carcinoma by high-performance liquid chromatography.
Biomed Chromatogr 12: 1-4. (Impact Factor: 1.592)
20. D. H. Vynios, A. Faraos, G. Spyrapoulou, **A. J. Aletras**, C. P. Tsiganos (1999),
A solid-phase assay for quantitative analysis of sulfated glycosaminoglycans at the nanogram level. Application to tissue samples.
J. Pharm. Biomed. Anal. 21: 859-865. (Impact Factor: 2.629)
21. S. A. Syggelos, S. C. Eleftheriou, E. Giannopoulou, E. Panagiotopoulos, and **A. J. Aletras** (2001),
Gelatinolytic and collagenolytic activity in periprosthetic tissues from loose hip endoprostheses.
J. Rheumatol. 28: 1319-1329. (Impact Factor: 3.282)
22. E. Papakonstantinou, **A. J. Aletras**, M. Roth, M. Tamm and G. Karakiulakis (2003),
Hypoxia modulates the effects of transforming growth factor- β isoforms on matrix-formation by primary human lung fibroblasts.
Cytokine 24: 25-35. (Impact Factor: 2.214)
23. T. A. Christopoulos, N. Papageorgakopoulou, D. A. Theocharis, **A. J. Aletras**, C. P. Tsiganos, T. A. Papadas, N. S. Mastronikolis, P. Goumas and D. H. Vynios (2004),
Diagnostic and classification value of metalloproteinases in squamous human laryngeal carcinoma.
Int. J. Oncol. 25:481-486. (Impact Factor: 2.234)
24. E. Papakonstantinou, A. Dionyssopoulos, **A. J. Aletras**, C. Pesintzaki, A. Minas and G. Karakiulakis (2004),
Expression of matrix metalloproteinases and their endogenous tissue inhibitors in skin lesions from patients with tuberous sclerosis.
J. Am. Acad. Dermatol. 51: 526-533 (Impact Factor: 4.081)
25. N. Ziouti, D. H. Vynios, **A. J. Aletras**, D. Kyriakopoulou, A. Mastorakou, A. Andonopoulos (2004),
Changes of MMPs and TIMPs in the Serum of Patients with Autoimmune Diseases: Association with Age and Disease Activity.
Clin. Chem. Lab. Med. 42: 880-888 (Impact Factor: 1.888)
26. E. Papakonstantinou, **A. J. Aletras**, E. Glass, P. Tsogas, A. Dionyssopoulos, J. Adjaye, S. Fimmel, P. Gouvousis, R. Herwig, H. Lehrach, Ch. C. Zouboulis and G. Karakiulakis (2005),
Matrix metalloproteinases of epithelial origin in facial sebum of patients with acne and their regulation by isotretinoin
J. Invest. Dermatol. 125: 673-684 (Impact Factor: 5.251)

27. Karakiulakis G, Papakonstantinou E, **Aletras AJ**, Tamm M, Roth M. (2007),
Cell type-specific effect of hypoxia and platelet-derived growth factor-BB on
extracellular matrix turnover and its consequences for lung remodeling.
J Biol Chem. 282:908-915. (Impact Factor: 5.520)
28. Kalogianni DP, Goura S, **Aletras AJ**, Christopoulos TK, Chanos MG, Christofidou
M, Skoutelis A, Ioannou PC, Panagiotopoulos E (2007),
Dry reagent dipstick test combined with 23S rRNA PCR for molecular diagnosis
of bacterial infection in arthroplasty
Anal Biochem 361:169–175 (Impact Factor: 3.145)
29. Syggelos SA, Giannopoulou E, Gouvousis PA, Andonopoulos AP, **Aletras AJ**,
Panagiotopoulos E (2007),
In vitro effects of non-steroidal anti-inflammatory drugs on cytokine, prostanoid
and matrix metalloproteinase production by interface membranes from loose hip
or knee endoprotheses
Osteoarthritis Cartilage 15:531-42. (Impact Factor: 4.082)
30. Mitropoulos D, Papakonstantinou E, **Aletras AJ**, Kalinderis N, Zervas A,
Hatzichristou D, Karakiulakis G (2007),
Terazosin modifies the content of glycosaminoglycans and the activity of matrix
metalloproteinase 2 in the rat ventral prostate
Eur.Urology 51: 447-456. (Impact Factor: 6.512)
31. Euthymiopoulou K, **Aletras AJ**, Ravazoula P, Niarakis A, Daoussis D, Antonopoulos
I, Liossis SN, Andonopoulos AP (2007),
Antiovarian antibodies in primary Sjogren's syndrome.
Rheumatol Int. 27:1149-55. (Impact Factor: 1.327)
32. Giannopoulou A, **Aletras AJ**, Pharmakakis N, Papatheodorou GN, Yannopoulos SN
(2007),
Dynamics of proteins: light scattering study of dilute and dense colloidal
suspensions of eye lens homogenates.
J ChemPhys 127 (20): 205101. (Impact Factor: 3.149)
33. Pavlaki M, Giannopoulou E, Niarakis A, Ravazoula P, and **Aletras AJ** (2009),
Walker 256 cancer cells secrete tissue inhibitor of metalloproteinase-free
metalloproteinase-9.
Mol Cell Biochem 328:189–199. (Impact Factor: 1.764)
34. Pavlaki M, Debeli K, Triantaphyllidou I-E, Klouras N, Giannopoulou E, **AletrasAJ**
(2009),
A proposed mechanism for the inhibitory effect of the anticancer agent titanocene
dichloride on tumourgelatinases and other proteolytic enzymes.
J Biol Inorg Chem 14:947–957. (Impact Factor: 3.600)
35. Skandalis SS, **Aletras AJ**, Gialeli C, Theocharis AD, Afratis N, Tzanakakis GN,
Karamanos NK (2012),
Targeting the tumor proteasome as a mechanism to control the synthesis and
bioactivity of matrix macromolecules.
Curr Mol Med 12(8):1068-1082. (Impact Factor: 4.197)
36. Hatziri A, Vynios DH, Panogeorgou T, Bouga H, Triantaphyllidou IE, Naxakis SS,
Stathas T, **Aletras AJ**, Kourousis C, Mastronikolis NS (2013),

Presence of hyaluronidase isoforms in nasal polyps.
Eur Rev Med Pharmacol Sci. 17(2): 247-252. (Impact Factor: 1.093)

37. Stathas T, Athanassiou SD, Drakouli S, Giannopoulou E, Mastronikolis NS, Naxakis S, Aletras AJ (2013),
MIF attenuates the suppressive effect of dexamethasone on IL-6 production by nasal polyp.
Eur Rev Med Pharmacol Sci. 17(11):1455-1466. (Impact Factor: 1.093)
38. Skliris A, Labropoulou VT, Papachristou DJ, Aletras A, Karamanos NK, Theocharis AD (2013),
Cell-surface serglycin promotes adhesion of myeloma cells to collagen type I and affects the expression of matrix metalloproteinases.
FEBS J. 280(10):2342-2352. (Impact Factor: 4.25)
39. Syggelos SA, Aletras AJ, Smirlaki I, Skandalis SS (2013),
Extracellular Matrix Degradation and Tissue Remodeling in Periprosthetic Loosening and Osteolysis: Focus on Matrix Metalloproteinases, Their Endogenous Tissue Inhibitors, and the Proteasome.
BioMed Res Internat. 2013, Article ID 230805, 18 pages(Impact Factor: 2.880)
40. Niarakis A, Giannopoulou E, Ravazoula P, Panagiotopoulos E, Zarkadis IK, Aletras AJ (2013),
Detection of a latent soluble form of membrane type 1 matrix metalloprotease bound with tissue inhibitor of matrix metalloproteinases-2 in periprosthetic tissues and fluids from loose arthroplasty endoprostheses.
FEBS J. 280 (24):6541-6555. (Impact Factor: 4.25)
41. Batzakakis D, Stathas T, Mastronikolis N, Kourousis C, Aletras A, Naxakis S (2014),
Adhesion molecules as predictors of nasal polyposis recurrence.
Am J Rhinol Allergy, 28 (1):20-22(3) (Impact Factor: 1.744)

2. Conference announcements/lecture abstracts

- a) 40 announcements/poster in International Conferences
- b) 39 announcements/poster in National Conferences

3. Book Chapters

1. Skandalis SS, Gialeli C, Afratis N, Aletras AJ, Tseggenidis T, Theocharis AD, Karamanos NK, Pharmacological targeting of proteoglycans and metalloproteinases: an emerging aspect in cancer treatment, in: Nikos K. Karamanos (Ed.), Extracellular Matrix: Pathobiology and Signaling, De Gruyter, Berlin/Boston, 2012, pp. 785-801.

Citations 651 (H-index:15)