

Assoc. Prof. AYSEL KOÇ DEMİR

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: G-7889-2016

Yoksis Researcher ID: 121464

Education Information

Doctorate, Ankara University, Fen Bilimleri Enstitüsü, Kimya (Dr), Turkey 2003 - 2008

Postgraduate, Ankara University, Fen Bilimleri Enstitüsü, Kimya (YI) (Tezli), Turkey 2000 - 2003

Undergraduate, Ankara University, Fen Fakültesi, Kimya Bölümü, Turkey 1996 - 2000

Dissertations

Doctorate, Mezenkimal kök hücrelerinin ve kompozit iskelelerin kullanımıyla kemik doku mühendisliği, Ankara University, Fen Bilimleri Enstitüsü, Kimya (Dr), 2008

Postgraduate, Bazı polimerik malzemelerin biyoyum ve biyobozunma özelliklerinin incelenmesi, Ankara University, Fen Bilimleri Enstitüsü, Kimya (YI) (Tezli), 2003

Research Areas

Biochemistry

Academic Titles / Tasks

Associate Professor, Ankara University, Fen Fakültesi, Kimya Bölümü, 2020 - Continues

Academic and Administrative Experience

Member of Department FEDEK Commission, Ankara University, Fen Fakültesi, Kimya Bölümü, 2021 - Continues

İSG uzmanlığı eğitimi almış personel, Ankara University, Fen Fakültesi, Kimya Bölümü, 2014 - Continues

Courses

Hormones, Undergraduate, 2022 - 2023, 2021 - 2022

BIOCHEMISTRY LABORATORY, Undergraduate, 2022 - 2023, 2021 - 2022

General chemistry, Undergraduate, 2022 - 2023

Serbest Radikaller Ve Antioksidanların Biyokimyası, Postgraduate, 2023 - 2024, 2021 - 2022, 2020 - 2021

Biochemistry, Undergraduate, 2023 - 2024
BIOCHEMISTRY LABORATORY, Undergraduate, 2022 - 2023
Biochemistry I, Undergraduate, 2022 - 2023
Özel konu, Undergraduate, 2021 - 2022
General Chemistry, Undergraduate, 2022 - 2023
Biochemistry II, Undergraduate, 2021 - 2022
Biyokimya, Undergraduate, 2020 - 2021
Chemistry, Undergraduate, 2021 - 2022, 2020 - 2021
Chemistry, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020
TEMEL KİMYA I, Undergraduate, 2017 - 2018
Temel Kimya II, Undergraduate, 2017 - 2018, 2016 - 2017
Organik kimya, Undergraduate, 2015 - 2016

Advising Theses

KOÇ DEMİR A., Kemik doku mühendisliğine yönelik biyomimetik iskelelerin tasarımı ve osteositler üzerine indüktif etkisinin incelenmesi, Postgraduate, K.NURAL(Student), 2021

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **DEVELOPMENT AND CHARACTERIZATION OF GELATIN/CHITOSAN/MONTMORILLONITE COMPOSITE SCAFFOLD ENRICHED WITH MAGNESIUM**
KOÇ DEMİR A.
REVUE ROUMAINE DE CHIMIE, vol.64, no.4, pp.327-335, 2019 (SCI-Expanded)
- II. **Osteogenic differentiation of encapsulated rat mesenchymal stem cells inside a rotating microgravity bioreactor: in vitro and in vivo evaluation**
KOÇ DEMİR A., ELÇİN A. E., ELÇİN Y. M.
CYTOTECHNOLOGY, vol.70, no.5, pp.1375-1388, 2018 (SCI-Expanded)
- III. **Strontium-modified chitosan/montmorillonite composites as bone tissue engineering scaffold**
Koç Demir A., Elcin A. E., Elçin Y. M.
Materials Science and Engineering C, vol.89, pp.8-14, 2018 (SCI-Expanded)
- IV. **Development and characterization of zinc-incorporated montmorillonite/poly(epsilon-caprolactone) composite scaffold for osteogenic tissue-engineering applications**
KOÇ DEMİR A.
POLYMER COMPOSITES, vol.39, 2018 (SCI-Expanded)
- V. **Clinical Applications of Injectable Biomaterials**
Ercan H., Durkut S., Koç Demir A., Elçin A. E., Elçin Y. M.
NOVEL BIOMATERIALS FOR REGENERATIVE MEDICINE, vol.1077, pp.163-182, 2018 (SCI-Expanded)
- VI. **Ectopic osteogenic tissue formation by MC3T3-E1 cell-laden chitosan/hydroxyapatite composite scaffold**
Koc A., Elçin A. E., Elçin Y. M.
Artificial Cells, Nanomedicine and Biotechnology, vol.44, no.6, pp.1440-1447, 2016 (SCI-Expanded)
- VII. **Evaluation of adenoviral vascular endothelial growth factor-activated chitosan/hydroxyapatite scaffold for engineering vascularized bone tissue using human osteoblasts: In vitro and in vivo studies**
Koc A., Finkenzeller G., Elçin A. E., Stark G. B., Elçin Y. M.
Journal of Biomaterials Applications, vol.29, no.5, pp.748-760, 2014 (SCI-Expanded)
- VIII. **Evaluation of a biomimetic poly(e-caprolactone)/b-tricalcium phosphate multispiral scaffold for bone tissue engineering: In vitro and in vivo studies**

Baykan E., Koc A., Elcin A. E., Elçin Y. M.

Biointerphases, vol.9, no.2, 2014 (SCI-Expanded)

IX. In vitro osteogenic differentiation of rat mesenchymal stem cells in a microgravity bioreactor

Koc A., Emin N., Elçin A. E., Elçin Y. M.

Journal of Bioactive and Compatible Polymers, vol.23, no.3, pp.244-261, 2008 (SCI-Expanded)

X. Engineering of rat articular cartilage on porous sponges: Effects of TGF- β 1 and microgravity bioreactor culture

Emin N., Koc A., Durkut S., Elcin A. E., Elçin Y. M.

Artificial Cells, Blood Substitutes, and Biotechnology, vol.36, no.2, pp.123-137, 2008 (SCI-Expanded)

XI. Encapsulation and osteoinduction of human periodontal ligament fibroblasts in chitosan-hydroxyapatite microspheres

Inanc B., Elcin A. E., Koc A., Balos K., Parlar A., Elçin Y. M.

Journal of Biomedical Materials Research - Part A, vol.82, no.4, pp.917-926, 2007 (SCI-Expanded)

XII. Evaluation of modified CMC and CMC-PVA as miscible polymer blend membranes for hepatocytes

Koc A., Durkut S., Elcin A. E., Tan E., Elçin Y. M.

Macromolecular Bioscience, vol.7, no.5, pp.681-689, 2007 (SCI-Expanded)

Articles Published in Other Journals

I. Evaluation of Chitosan /Organoclay Composite as Bone Tissue Engineering Scaffold

KOÇ DEMİR A.

Hittite Journal of Science and Engineering, vol.4, no.1, pp.45-49, 2017 (Peer-Reviewed Journal)

II. Preparation and Characterization of Montmorillonite/Polycaprolactone Composite Scaffold Containing Strontium for Bone Tissue Engineering Studies

KOÇ DEMİR A.

Journal of the Turkish Chemical Society, Section A: Chemistry, vol.3, no.3, pp.669, 2016 (Peer-Reviewed Journal)

Books & Book Chapters

I. Clinical Applications of Injectable Biomaterials

ERCAN H., DURKUT S., KOÇ DEMİR A., ELÇİN A. E., ELÇİN Y. M.

in: Novel Biomaterials for Regenerative Medicine (Advances in Experimental Medicine and Biology 1077), Chun HJ, Park K, Kim C-H, Khang G, Editor, Springer Nature, b, pp.163-182, 2018

Refereed Congress / Symposium Publications in Proceedings

I. Preparation and characterization of decellularized tendon extracellular matrix-halloysite biocomposite scaffold for bone tissue engineering applications

Koç Demir A., Yıldırım M.

6th International Eurasian Conference on Biological and Chemical Sciences (EurasianBioChem 2023), Ankara, Turkey, 11 - 13 October 2023, pp.50

II. Fabrication and characterization of collagen-GAG based biomimetic scaffolds for bone tissue engineering

Emin N., Özelçağlayan E., Koç Demir A., Nural K.

The 26th International Biomedical Science & Technology Symposium, Ankara, Turkey, 25 - 27 November 2022, pp.29

III. Kemik doku mühendisliğine yönelik biyopolimerik-biyoseramik kompozit iskelelerin mekanik stres şartlarında üretimi ve karakterizasyonu

Emin N., Nural K., Koç Demir A.

5th International Eurasian Conference on Biological and Chemical Sciences (EurasianBioChem 2022), Ankara, Turkey, 22 - 25 November 2022, pp.204

- IV. **Tendon Hücre Dışı Matriksi Temelli Manyetik Özellikteki Halloysit İskelelerinin Hazırlanması ve Karakterizasyonu**
KOÇ DEMİR A., ELÇİN A. E., ELÇİN Y. M.
VIII. Polimer Bilim ve Teknoloji Kongresi, Malatya, Turkey, 20 June 2022
- V. **The Effect of Hyaluronidase on Chondrogenic Differentiation of Mesenchymal Stem Cells Seeded Into Collagen/Hyaluronic Acid Scaffolds**
EMİN N., KOÇ DEMİR A.
7th International Symposium-Cum-Training Course on Molecular Medicine and Drug Research, 4 - 07 November 2019
- VI. **Magneto-Sensitive Decellularized Bone Matrix as a Regenerative Biomaterial**
ELÇİN Y. M., PARMAKSIZ M., vurat m. t., LALEGÜL Ö., DURKUT S., KOÇ DEMİR A., ELÇİN A. E.
Advances in Functional Materials Conference, 19 - 22 August 2019
- VII. **Strontium-Modified Chitosan / Montmorillonite Composite Scaffolds For Bone Tissue Engineering**
KOÇ DEMİR A., Auftrage H., ELÇİN Y. M., Stevens M.
TERMIS2012, 5 - 08 September 2012
- VIII. **Development and Characterization of Composite Scaffolds**
KOÇ DEMİR A.
ISOPS-12 (12th International Symposium on Pharmaceutical Sciences), 26 - 29 June 2018
- IX. **Montmorillonite/Gelatin/Chitosan Composites Containing Magnesium for Bone TERM Applications**
KOÇ A., ELÇİN A. E., ELÇİN Y. M.
BIOMED 2017 (22nd International Symposium on Biomedical Science and Technology), Ankara, Turkey, 12 - 14 May 2017
- X. **Synthesis and Characterization of Polycaprolactone Montmorillonite Composite Scaffold Containing Zinc For Bone Tissue Engineering Applications**
KOÇ A.
ICFAS2016 (International Congress on Fundamental and Applied Sciences), 22 - 26 August 2016
- XI. **Preparation and Characterization of Montmorillonite Polycaprolactone Composite Scaffold Containing Strontium for Bone Tissue Engineering Studies**
KOÇ A.
28.Ulusal Kimya Kongresi, Turkey, 15 - 21 August 2016
- XII. **Chitosan / Organoclay Composite Scaffolds for Bone Tissue Engineering**
KOÇ DEMİR A., UZUN S., ELÇİN Y. M.
TERMIS 2013, 17 - 20 June 2013
- XIII. **In Vitro Generation of Bone-Like Tissue From Adipose-Derived Stem Cells Under Mechanotransduction**
Koç A., Elçin Y. M., Elçin A. E., Baykan E., İbşiroğlu T.
BIOMED2011, Ankara, Turkey, 23 - 25 November 2011
- XIV. **Evaluation of Hyaluronic Acid-Based Scaffolds for Cartilage Tissue Engineering**
Demirdögen B., Koç A., Elçin A. E., Elçin Y. M.
BIOMED2011, Ankara, Turkey, 23 - 25 November 2011
- XV. **Tissue Regeneration Observed in MSC-Carrying Nanofibrous Sheets in Rat Limb Ischemia Model**
DURDU M. S., ARSLAN Y. E., KOÇ DEMİR A., ELÇİN A. E., ELÇİN Y. M.
BIOMED2011, 23 - 26 November 2011
- XVI. **Evaluation Of The In Vivo Properties Of Adenoviral VEGF-Activated Chitosan-Hydroxyapatite Scaffold**
KOÇ DEMİR A., ELÇİN A. E., ELÇİN Y. M.
BIOMED2011, 23 - 25 November 2011
- XVII. **Multi-Spiral Nanofibrous Poly(Caprolactone)/ β -TCP Scaffold for Bone Tissue Engineering Using BM-**

MSCs: In Vitro and In Vivo Studies.

Baykan E., Koç A., Elçin A. E., Elçin Y. M.

BIOMED2011, Ankara, Turkey, 23 - 25 November 2011

XVIII. Multi-Spiral Poly(Caprolactone)/ β -TCP Nanofibrous Scaffold For Bone Tissue Engineering: In-Vitro and In-Vivo Studies. TERMIS 2011, Spain.

Baykan E., Koç Demir A., Elçin A. E., Elçin Y. M.

TERMIS2011, Granada, Spain, 7 - 10 June 2011

XIX. Bone Marrow-MSCs Form Ectopic Bone on Nanofibrous Poly(ϵ -caprolactone)- β -TCP Multi-Spiral Scaffold: One Year In Vivo Follow-Up Study

Baykan E., Koç Demir A., Elçin A. E., Elçin Y. M.

BIOMED2010, İstanbul, Turkey, 28 September - 02 October 2010

XX. Evaluation of Collagen/Hydroxyapatite Membranes for Use as Substrate for Periodontal Ligament and Osteoprogenitor Cells

Aktaş Z., Koç Demir A., Arslan Y. E., Elçin A. E., Elçin Y. M.

BIOMED2010, İstanbul, Turkey, 28 September - 02 October 2010

XXI. Adipose-Derived Mesenchymal Stem Cells from Abdominal and Mammary Sites: Comparison of Differentiation and Immunophenotypical Characteristics

İbşiroğlu T., Elçin A. E., Koç Demir A., Uçkan D., Elçin Y. M.

BIOMED2010, İstanbul, Turkey, 28 September - 02 October 2010

XXII. Osteogenic Differentiation of MC3T3-E1 Cells on Gelatin-Chitosan-Hydroxyapatite Scaffolds'

Koç Demir A., Elçin A. E., Elçin Y. M.

BIOMED2010, İstanbul, Turkey, 28 September - 02 October 2010

XXIII. In vitro osteogenic differentiation of human adipose-derived mesenchymal stem cells on nanofibrous PCL/ β -TCP composite scaffold

Elçin A. E., İbşirlioğlu T., Baykan E., Arslan Y. E., Koç Demir A., Elçin Y. M.

VIth Annual Meeting of the ISSCR-International Society for Stem Cell Research, California, United States Of America, 16 - 19 June 2010

XXIV. MC3T3-E1 Cells-Seeded Chitosan-Hydroxyapatite Sponge Promotes Bone Formation at Extraskelatal Site in Rats

Koç Demir A., Elçin A. E., Elçin Y. M.

BIOMED2009, Güzelyurt, Cyprus (Kktc), 16 - 19 August 2009

XXV. Nanofibrous Poly(ϵ -caprolactone)- β -Tricalcium phosphate Composite Membranes: Optimisation and Mesenchymal Stem Cell Interaction Studies

Baykan E., Arslan Y. E., Koç Demir A., Elçin A. E., Elçin Y. M.

BIOMED2009, Güzelyurt, Cyprus (Kktc), 16 - 19 August 2009

XXVI. Adenoviral VEGF Gene Therapy for Bone Tissue Engineering Using Chitosan/Hydroxyapatite Sponges

Koç Demir A., Finkenzeller G., Stark B., Elçin Y. M.

BIOMED2007, İstanbul, Turkey, 26 - 28 August 2007

XXVII. In Vitro Osteogenic Differentiation of MC3T3-E1 Cells on Chitosan/Hydroxyapatite Sponges

Koç Demir A., Finkenzeller G., Stark B., Elçin Y. M.

BIOMED2007, İstanbul, Turkey, 26 - 28 August 2007

XXVIII. Evaluation of the In Vitro and In Vivo Properties of Composite Hydroxyapatite/Chitosan Microspheres

Koç Demir A., Elçin A. E., Elçin Y. M.

BIOMED2005, İzmir, Turkey, 20 - 23 September 2005

XXIX. Encapsulation and Osteoinduction of Human Periodontal Ligament Fibroblasts in Chitosan-Hydroxyapatite Microspheres

İnanç B., Koç Demir A., Elçin A. E., Elçin Y. M.

BIOMED2004, Ankara, Turkey, 6 - 10 September 2004

XXX. In Vitro Osteogenic Differentiation of Rat Mesenchymal Stem Cells on Mineralized Poly(DL-Lactic-co-

Glycolic Acid) Scaffolds in a STLV Microgravity Bioreactor

Koç Demir A., Elçin A. E., Elçin Y. M.

BIOMED2004, Ankara, Turkey, 6 - 10 September 2004

XXXI. Encapsulation of Rat Mesenchymal Stem Cells in Chitosan-Hydroxyapatite Microspheres for Bone Formation

Koç Demir A., Elçin A. E., Elçin Y. M.

BIOMED2004, Ankara, Turkey, 6 - 10 September 2004

XXXII. Modified Carboxymethylcellulose–Poly(vinyl alcohol) Membranes as Cell Substrates for Primary Rat Hepatocytes

Koç Demir A., Elçin A. E., Elçin Y. M.

BIOMED2003, İzmir, Turkey, 10 - 12 October 2003

XXXIII. Formation of Vessel-like Structures from Human Embryonic Stem Cells in Culture: Preliminary Finding

Elçin A. E., Polat G., Oğuz Ö., Durkut S., Koç Demir A., Kormalı T., Akbulak G., Çoşkun H., Elçin Y. M.

BIOMED2002, Antalya, Turkey, 19 - 22 September 2002

XXXIV. Biocompatibility, Biodegradability and Surface Properties of Modified Carboxymethylcellulose Hydrogels

Koç Demir A., Elçin A. E., Tan E., Elçin Y. M.

BIOMED2002, Antalya, Turkey, 19 - 22 September 2002

XXXV. Formation of vessel-like structures from human embryonic stem cells in culture: preliminary findings

Durkut S., Elçin Y. M., Elçin A. E., Koç Demir A.

IXth International Symposium on Biomedical Science Technology, Antalya, Turkey, 19 - 22 September 2002

Memberships / Tasks in Scientific Organizations

BİYOMALZEME VE DOKU MÜHENDİSLİĞİ DERNEĞİ, Member, 2008 - Continues, Turkey

Scientific Refereeing

Project Supported by Higher Education Institutions, BAP Research Project, Karamanoglu Mehmetbey University, Turkey, May 2023

Project Supported by Higher Education Institutions, BAP Research Project, Hitit University, Turkey, May 2023

Metrics

Publication: 50

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H-Index (Scopus): 9