

Asst. Prof. Emel ORDU

Personal Information

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Education Information

Doctorate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Moleküler Biyoloji Genetik Ve Biyoteknoloji, Turkey
2005 - 2010

Research Areas

Life Sciences, Biotechnology, Industrial Biotechnology, Molecular Biology and Genetics, Genomics, Protein Engineering, Natural Sciences

Academic Titles / Tasks

Assistant Professor, Yıldız Teknik Üniversitesi, Fen Edebiyat Fakültesi, Moleküler Biyoloji Ve Genetik, 2018 - Continues
Assistant Professor, Yıldız Teknik Üniversitesi, Fen Edebiyat Fakültesi, Moleküler Biyoloji Ve Genetik, 1998 - 2018

Courses

Moleküler Biyolojiye Giriş, Under Graduate, 2016 - 2017
Biyokimyasal Hesaplamalar, Under Graduate, 2016 - 2017
Protein Yapısı ve Mühendisliği, Doctorate, 2015 - 2016
Biyokimya I, Under Graduate, 2016 - 2017
İleri Nükleik Asit ve Protein Biyokimyası, Doctorate, 2015 - 2016

Advising Theses

ORDU E., Zeytin Fermantasyonunun Mikrobiyal çeşitliliğinin Metagenomik Yaklaşımla Araştırılması, Post Graduate,
H.Karaçay(Student), 2017
ORDU E., Cmfhd Enziminin Termostabilitesinin Geliştirilmesine Yönelik Hedef Bölgeler Üzerinde Bölgeye Özel Mutasyon Uygulamaları, Post Graduate, M.Tahmaz(Student), 2013

Jury Memberships

Doctorate, Doktora Tez Savunma Jürisi, İTÜ, December, 2016

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Effect of Met/Leu substitutions on the stability of NAD⁺-dependent formate dehydrogenases from *Gossypium hirsutum***
Ordu E., Kurt S.
Applied Microbiology And Biotechnology, vol.6, no.1, pp.1-12, 2021 (Journal Indexed in SCI)
- II. **Microbiota profiling and screening of the lipase active halotolerant yeasts of the olive brine**
Demirci H., Kurt Gür G., Ordu E.
World Journal Of Microbiology & Biotechnology, vol.37, pp.1-13, 2021 (Journal Indexed in SCI Expanded)
- III. **Synthesis of New 4-Oxo-Tetrahydroindol Derivatives by Using Chemical and Microbial Biotransformation Methods**
Caliskan Z., Soydan E., Kurt Gür G., Ordu E.
Polycyclic Aromatic Compounds, vol.40, no.5, pp.1390-1396, 2020 (Journal Indexed in SCI Expanded)
- IV. **Stress response of NAD(+)-dependent formate dehydrogenase in *Gossypium hirsutum* L. grown under copper toxicity**
Kurt-Gur G., Demirci H., Sunulu A., Ordu E.
ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH, vol.25, pp.31679-31690, 2018 (Journal Indexed in SCI)
- V. **Characterization of a novel thermotolerant NAD(+)-dependent formate dehydrogenase from hot climate plant cotton (*Gossypium hirsutum* L.)**
Kurt-Gur G., Ordu E.
3 BIOTECH, vol.8, 2018 (Journal Indexed in SCI)
- VI. **Effect of surface electrostatic interactions on the stability and folding of formate dehydrogenase from *Candida methylica***
Ordu E., Sessions R. B. , Clarke A. R. , Karaguler N. G.
JOURNAL OF MOLECULAR CATALYSIS B-ENZYMATIC, vol.95, pp.23-28, 2013 (Journal Indexed in SCI)
- VII. **The effect of methionine to cysteine substitution on the stability of formate dehydrogenase from *Candida methylica***
Ordu E., Yelboga E., Secundo F., Sessions R. B. , Karaguler N. G.
JOURNAL OF MOLECULAR CATALYSIS B-ENZYMATIC, vol.82, pp.109-114, 2012 (Journal Indexed in SCI)
- VIII. **IMPROVED *Candida methylica* FORMATE DEHYDROGENASE FERMENTATION THROUGH STATISTICAL OPTIMIZATION OF LOW-COST CULTURE MEDIA**
Kahraman M., Ordu E., Yesiladali K., Karaguler N. G. , Tamerler C.
PREPARATIVE BIOCHEMISTRY & BIOTECHNOLOGY, vol.42, pp.507-519, 2012 (Journal Indexed in SCI)
- IX. **Kinetic and thermodynamic properties of the folding and assembly of formate dehydrogenase**
Ordu E., Cameron G., Clarke A. R. , Karaguler N. G.
FEBS LETTERS, vol.583, no.17, pp.2887-2892, 2009 (Journal Indexed in SCI)
- X. **Protein engineering applications of industrially exploitable enzymes: *Bacillusstearothermophilus* LDH and *Candida methylica* FDH,**
Sessions R., Binay B., ORDU E., Clarke A. R.
BIOCHEMICAL SOCIETY TRANSACTIONS, no.35, pp.1610-1615, 2007 (Journal Indexed in SCI Expanded)
- XI. **Improving the purification of NAD(+)-dependent formate dehydrogenase from *Candida methylica***
Ordu E., Karagueler N. G.
PREPARATIVE BIOCHEMISTRY & BIOTECHNOLOGY, vol.37, pp.333-341, 2007 (Journal Indexed in SCI)
- XII. **An Efficient and Rapid in vitro Regeneration System For Metal Resistant Cotton.**
Ordu E., Memon A.
Biologia Plantarum, vol.9, no.3, pp.415-417, 2005 (Journal Indexed in SCI Expanded)

Articles Published in Other Journals

- I. **Metagenomic analysis of the microbial community in Çal Cave soil to elucidate biotechnological potential**
DEMİRCİ H., ORDU E.

Turkish Journal of Forestry, vol.21, no.3, pp.254-259, 2020 (Other Refereed National Journals)

- II. **Site Saturation Mutagenesis Applications on Candida methylica Formate Dehydrogenase**
Ozgun G. P. , Ordu E., Tutuncu H. E. , Yelboga E., Sessions R. B. , Karaguler N. G.
SCIENTIFICA, 2016 (Journal Indexed in ESCI)

Books & Book Chapters

- I. **Protein Engineering Applications on Industrially important Enzymes: Candida methylica FDH as a case study.**
ORDU E., Gül Karagüler N.
in: Protein Engineering, Pravin Kaumaya, Editor, Intech, Rijeka, pp.75-99, 2012
- II. **Biyokimya ve Moleküler Biyoloji**
ORDU E., Karagüler N.
in: Gıda Biyoteknolojisi, Aran N., Editor, Nobel, İstanbul, pp.20-45, 2010

Refereed Congress / Symposium Publications in Proceedings

- I. **Metagenomik Yaklaşımla Elde Edilen Endoglukanaz Enziminin Karakterizasyonu**
Çalış F., Demirci H., Kurt Gür G., Ordu E.
3.Ulusal Proteomik Kongresi, 27-29 Şubat 2020, İstanbul, Turkey, 27 - 29 February 2020, pp.1
- II. **Gossypium Hirsutum Format Dehidrogenaz Enzimi Üzerine Bölge Uygunluk Mutasyonu Uygulamaları**
Ordu E., Atik K.
3. Ulusal Proteomik Kongresi, İstanbul, Turkey, 27 - 29 February 2020, pp.24
- III. **Halofilik Bir Candida Türünden NAD(P)+-Bağımlı Format Dehidrogenaz Klonlanması**
Başsaraç Ö., Kurt Gür G., Ordu E.
3.Ulusal Proteomik Kongresi, İstanbul, Turkey, 27 - 29 February 2020, pp.1
- IV. **Investigation of Mesenchymal Stem Cells Differentiation Under Static Magnetic Field Induction**
Ordu E., Molo K.
8th INTERNATIONAL MOLECULAR BIOLOGY AND BIOTECHNOLOGY CONGRESS, Afyon, Turkey, 17 - 20 December 2019, pp.78
- V. **Format Dehidrogenaz Reaksiyonu ile Kiral α -hidroksi Benzofuranon Türevlerinin Sentezi***
Çalışkan Z., Ordu E., Kurt Gür G., Avcı K., Erdöl S.
31. Ulusal Kimya Kongresi, İstanbul, Turkey, 10 - 13 September 2019, pp.116
- VI. **Yeni Bir Yaklaşımla 4-Oxo-tetrahidroindolTürevlerinin Biyotransformasyonu**
Erdöl S., KURT GÜR G., ORDU E., ÇALIŞKAN Z.
7th Drug Chemistry Conference: Design, Synthesis, Production and Standardization of Drug Active Substances, Antalya, Turkey, 14 March 2019, pp.9
- VII. **Green Remediation Of Polluted Soils By Using Commercially Important Crop Gossypium Hirsutum**
Sunulu A., DEMİRCİ H., KURT GÜR G., ORDU E.
the four edition of International Conference on Civil Environmental, Geology and Mining Engineering (ICOCEM-Trabzon 2019, Trabzon, Turkey, 20 April 2019, pp.150
- VIII. **Metagenomik Alalysis of Environmental Microbial Sources: Case Study of Çal Cave**
Ordu E., Demirci H.
ICOCEM 4. İternational Conference on Civil Environmental Geology and Mining Engineering , Trabzon, Turkey, 22 April 2019, vol.1, no.1, pp.149
- IX. **In silico analysis of Omp19 and M24/M37 family peptidase of Brucella abortus to identify the potential T cell epitope**
Atabey T., Trabzonlu K., ORDU E., Güllüce M., ARASOĞLU T.

XV Congress of the Italian Federation of Life Sciences (XV. FISV), Eskişehir, Turkey, 18 September 2018, pp.197-198

- X. **Cloning and Molecular Analysis of Endemic Brucella abortus Omp25 Gene**
ARASOĞLU T., Atabey T., KURT GÜR G., ORDU E., ERDEMİR ÜSTÜNDAĞ A., Güllüce M.
4th International Congress on Applied Biological Sciences (ICABS), Eskişehir, Turkey, 03 May 2018, pp.169
- XI. **METAGENOMIC APPROACH TO INVESTIGATE THE NOVEL ENZYMES DEGRADING PLANT BIOMASS**
ORDU E., DEMİRCİ H., KURT GÜR G.
INTERNATIONAL DNA DAY AND GENOME CONGRESS, 24 - 28 April 2017
- XII. **MINING THE NOVEL HALOTOLERANT ENZYMES FROM MICROBIAL COMMUNITIES OF FOOD FERMENTATION**
KURT GÜR G., DEMİRCİ H., ORDU E.
INTERNATIONAL DNA DAY AND GENOME CONGRESS, 24 - 28 April 2017
- XIII. **INVESTIGATION OF THE NON-CULTIVABLE PROKARYOTIC MICROBIOTA OF TURKISH TABLE OLIVE BRINE**
karaçay h., DEMİRCİ H., KURT GÜR G., ORDU E.
INTERNATIONAL DNA DAY AND GENOME CONGRESS, 24 - 28 April 2017
- XIV. **Increasing Specific Activity of NAD⁺ Dependent Thermostabile Q105R Mutant of Candida Methylica Formate Dehydrogenase by Site-Directed Mutagenesis**
Torun S., Binay B., ORDU E., Gül Karagüler N.
The 11th International Conference on Protein Stabilisation, İstanbul, Turkey, 09 May 2016, pp.53
- XV. **Investigation of CO₂ Reducing Capacity of Mutant cmFDHs for Hydrogen Fuel Production**
Büyükyavuz E., ORDU E., Gül Karagüler N.
The 11th International Conference on Protein Stabilisation, İstanbul, Turkey, 09 May 2016, pp.78
- XVI. **Identification a New NAD⁺ - Dependent Formate Dehydrogenase From Anaerobic Clostridium Ljungdahlii**
Çakar M. M. , Aslan A. S. , ORDU E., Turunen O., Binay B.
The 11th International Conference on Protein Stabilisation, İstanbul, Turkey, 09 May 2016, pp.59
- XVII. **Site Directed Mutagenesis Applications on Target Sites of cmFDH To Improve its Thermostability**
Tahmaz M., Par Özgün G., Je Yoo Y., gül karagüler n., ORDU E.
The 11th International Conference on Protein Stabilisation, İstanbul, Turkey, 09 May 2016, pp.50
- XVIII. **Cloning of Gene Encoding B glucosidase from Leaves of Olive olea europea L Exposed to Cold Stress**
DOLMA G., ÖZDEMİR ÖZGENTÜRK N., GÜR KURT G., ORDU E., YÜCA E., VURAL KORKUT Ş.
Moleküler Biyoloji Derneği 1. Uluslar arası Kongresi, 23 - 24 November 2012
- XIX. **Cloning of Gene Encoding Beta Glucosidase from leaves of olive (Olea Europaea L.) exposed to cold stress**
Çavuşoğlu Dolma G., Özdemir Özgentürk N., Kurt Gür G., Ordu E., Yüce E., Vural Korkut Ş.
1st International Congress of Molecular Biology Association of Turkey, İstanbul, Turkey, 01 November 2012, pp.1
- XX. **Cloning of Novel Green Solvent Tolerant Hydrolytic Enzymes from Extremophilic Microorganisms**
ORDU E.
15th European Congress on Biotechnology, İstanbul, 01 September 2012
- XXI. **Site-saturation mutagenesis of formate dehydrogenase from Candida methylica to increase the thermostability**
ORDU E., Gül Karagüler N., Bıyık H. E.
22nd IUBMB ve 37th FEBS, Sevilla, Spain, 01 September 2012
- XXII. **Alteration of the Coenzyme Specificity of Formate Dehydrogenase from Candida methylica by Site Saturation Mutagenesis**
ORDU E.
International Conference on Enzyme Science and Technology, 01 November 2011
- XXIII. **NADdependent formate dehydrogenase from Candida methylica with the increased thermostability**
ORDU E.
8th International Conference on Protein Stabilisation, Graz, Avustria, 01 April 2009

- XXIV. **Nanobiyokatalizör Geliştirilmesinde Protein Mühendisliği Uygulamaları**
ORDU E.
İTÜ Nano-Bilim ve Nano-Teknoloji Çalıştayı, 01 February 2009
- XXV. **Crucial residues in NAD/NADP specificity of formate dehydrogenase from *Candida methylica***
ORDU E.
33th International Meeting of The Federation of European Biochemical Societies, 01 June 2008
- XXVI. **Effects of cysteine/cystine engineering on thermal stability of formate dehydrogenase from *Candida methylica***
ORDU E.
33th International Meeting of The Federation of European Biochemical Societies, 01 June 2008
- XXVII. **Media optimization on *Escherichia coli* with pQE-2 carrying FDH gene in molasses-based medium**
ORDU E.
33th International Meeting of The Federation of European Biochemical Societies, 01 June 2008
- XXVIII. **Production of enzyme based compounds for Pharmaceutical Industry**
ORDU E.
5th International Symposium on Pharmaceutical Chemistry, 01 September 2007
- XXIX. **Increasing the thermostability of NADdependent formate dehydrogenase from *Candida methylica* by optimization of surface electrostatic interaction**
ORDU E.
7th International Conference on Protein Stabilisation, Exeter-UK, 01 April 2007
- XXX. **Protein engineering application on pharmaceutically Important Enzymes:LDH and FDH.**
ORDU E.
PROTEOMICS- Protein Structure and Function Workshop with international participation, 01 September 2006
- XXXI. **Screening and selection of cotton genotypes resistant to Cd Toxicity**
ORDU E., Memon A.
1st Scientific Workshop And Management Committee Meeting, Pisa, Italy, 14 June 2005, pp.105
- XXXII. **Farklı pamuk genotiplerinin Cd, Cu ve Ni streslerine karşı gösterdikleri tepkilerin incelenmesi ve karşılaştırılması**
ORDU E.
XIII. Biyoteknoloji Kongresi, Çanakkale, 01 August 2003
- XXXIII. **Screening and in vitro regeneration of Metal Resistant Cotton Grown in Turkey**
ORDU E.
28th International Meeting of The Federation of European Biochemical Societies, 01 October 2002
- XXXIV. **Characterization and Expression of Heavy Metal Induced Genes in Cotton Grow Southern Region of Turkey**
Memon A., Özdemir A., Cevher Keskin B., ORDU E., Gençer O.
The Inter- Regional Cooperative Research Network on Cotton, Adana, Turkey, 20 September 2000, pp.253-257

Supported Projects

ERİŞEN S., ORDU E., Arvas Y. E. , Project Supported by Higher Education Institutions, MUTANT VE MUTANT OLMAYAN ÇELTİK (*Oryza sativa* L) BİTKİLERİNİN TUZ STRESİNDEKİ TOLERANS DURUMLARININ TESPİTİ, 2020 - Continues
ORDU E., DEMİRCİ H., Project Supported by Higher Education Institutions, Metagenomiks Yaklaşım İle Yeni Asidofilik Enzimlerinin Araştırılması, 2019 - Continues

ORDU E., Atık K., Project Supported by Higher Education Institutions, *Gossypium hirsutum* Format Dehidrogenaz Enzimi Üzerine Bölge Doğunluk Mutasyonu Uygulamaları, 2020 - 2021

Kurt Gür G., Ordu E., Erişen S., Gürel A., Project Supported by Other Official Institutions, Hüyük Maddelerin Kestane Dal Kanseri Üzerine Etkilerinin İn-vitro Koşullarda Araştırılması, 2019 - 2021

Kurt Gür G., Ordu E., Erişen S., Gürel A., Project Supported by Other Official Institutions, Gençleştirme Çalışmalarının Sapsız Meşe (*Quercus Petraea* (Matt.) Liebl.) meşcerelerindeki genetik çeşitliliğe etkisi, 2019 - 2021

ORDU E., Molo K., Project Supported by Higher Education Institutions, Heterocephalus glaber Metallothionein Proteini Üreten Mezenkimal Kök Hücre Hattının Statik Manyetik Alan Etkisinde Osteoblastik Farklılaşma Potansiyelinin İncelenmesi, 2019 - 2020

ORDU E., Sunulu A., Project Supported by Higher Education Institutions, Gossypium hirsutum Format Dehidrogenaz Enziminin Oksidatif Stresle Mücadeledeki Rolünün Araştırılması, 2018 - 2019

Ordu E., Kurt Gür G., TUBITAK Project, Pamuk Bitkisinden (Gossypium Hirsutum) İzole Edilen Nad+-Bağımlı Format Dehidrogenaz'ın Rekombinant Üretimi Ve Biyoteknolojik Kullanımının Araştırılması, 2017 - 2019

ORDU E., TUBITAK Project, Kompost Toprakta Hazırlanan Metagenomik Kütüphaneden Yeni Lakkaz Adayı Genlerin Taranması, 2018 - 2018

ORDU E., KARAÇAY H., Project Supported by Higher Education Institutions, Zeytin Fermantasyonunda Mikrobiyal Çeşitliliğinin Metagenomik Yaklaşımla Araştırılması, 2016 - 2018

ORDU E., Yüca E., DEMİRCİ H., VURAL KORKUT Ş., KURT GÜR G., KARAGÜLER N. G. , Project Supported by Higher Education Institutions, Biyoyakıt Endüstrisi İçin Potansiyel Biyokatalizörlerin Taranması Amacıyla Kompost Toprakta Metagenomik Kütüphane Kurulması, 2013 - 2017

Kurt Gür G., Vural Korkut Ş., Ordu E., Yurtsever M., Project Supported by Higher Education Institutions, Zeytin (Olea Europaea L Cv. Gemlik)Yaprağından 914; Karbonik Anhidraz Enzimini Kodlayan Genin Karakterizasyonu Ve Soğuk Stresinde Anlatımının Analizi, 2013 - 2017

Yüca E., Özdemir Özgentürk N., Ordu E., Vural Korkut Ş., Project Supported by Higher Education Institutions, Histidin Kuyruklu Zeytin Olea europaea L Cv Gemlik Glukozidaz Enziminin E coli de Rekombinant Anlatımı, 2013 - 2016

ORDU E., Other Supported Projects, Organik koşullarda yetiştirilmiş Phaseolus vulgaris L.anlatımı artan genlerin SSH yöntemiyle izolasyonları, 2012 - 2014

ORDU E., Other Supported Projects, Olea europaea EST Koleksiyonundan Seçilen Glukozidaz geninin Moleküler Analizi ve Pichia pastoriste Ekspresyonu, 2012 - 2014

ORDU E., TUBITAK Project, CORNET-Sıvı CO2 Koşullarına Uygun Yeni Enzim Sistemlerinin Geliştirilmesi ve Hijyen Gerektiren Alanlarda Kullanımı, 2010 - 2012

ORDU E., Project Supported by Other Official Institutions, Bölge Saturasyon Mutageniz Tekniği Kullanılarak Endüstriyel Öneme Sahip Format Dehidrogenaz Enziminin Termostabilitesinin Arttırılması, 2009 - 2011

ORDU E., TUBITAK Project, Bölge Saturasyon Mutageniz Yöntemi Kullanılarak Candida methylica Format Dehidrogenaz Enziminin Koenzim Spesifitesinin Değiştirilmesi, 2008 - 2011

ORDU E., Project Supported by Other Official Institutions, İlaç Endüstrisine Yönelik Enzim Bazlı Hammadde Üretimi, 2006 - 2009

Ordu E., Çalışkan Z., Kurt Gür G., Gören N., Bode Ü., Project Supported by Higher Education Institutions, Chlamydomonas reinhardtii yeşil alginin metal ve sıcaklığa karşı dayanıklılık genlerinin ekspresyonu, 2004 - 2005

Kurt Gür G., Ordu E., Gören N., Çalışkan Z., Project Supported by Higher Education Institutions, Ege ve Güney Anadolu Bölgelerinde Ağır Metaller Karşı Dayanıklı Pamuk Türlerinin Geliştirilmesi, 2001 - 2003

ORDU E., TUBITAK Project, Pamuk Bitkisine Ağır Metaller ve Mantar Hastalıklarına Karşı Genetik Mühendisliği ile Dayanıklılık Kazandırılması, 2001 - 2002

Citations

Total Citations (WOS):44

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