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International Researcher IDs

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Publons / Web Of Science ResearcherID: AAZ-6727-2020

ScopusID: 57217086164

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Education Information

Doctorate, Middle East Technical University, Graduate School of Natural and Applied Sciences, Biochemistry, Turkey
1983 - 1989

Postgraduate, Middle East Technical University, Graduate School of Natural and Applied Sciences, Turkey 1981 - 1983

Undergraduate, Middle East Technical University, Faculty of Arts and Sciences, Department of Biology, Turkey 1977 -
1981

Dissertations

Doctorate, Purification and spectral and catalytic characterization of NADH-cytochrome b5 reductase from lung
microsomes, Middle East Technical University, Graduate School of Natural and Applied Sciences, Biochemistry, 1989

Postgraduate, Partial purification of insulin from beef pancreas, Middle East Technical University, Graduate School of
Natural and Applied Sciences, 1983

Research Areas

Natural Sciences

Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Biology, 1999 - Continues

Associate Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Biology, 1994 - 1999

Research Assistant, Middle East Technical University, Faculty of Arts and Sciences, Department of Biology, 1983 - 1992

Academic and Administrative Experience

Middle East Technical University, Faculty of Arts and Sciences, 2009 - 2012

Advising Theses

- GÜRAY N. T., The effect of boric acid on steroid biosynthesis pathway in HepG2 cell line, Postgraduate, Z.EDA(Student), 2022
- GÜRAY N. T., VOLKAN M., Investigation of in vitro cytotoxic effects of heparin coated iron oxide nanoparticles combined with TPP-DCA on human hepatocellular carcinoma cell line HEPG2, Postgraduate, B.EZGİ(Student), 2018
- GÜRAY N. T., Drug metabolism and apoptosis in HEPG2 cell line, Postgraduate, S.RUSTAM(Student), 2017
- VOLKAN M., GÜRAY N. T., Heparin coated and 2-deoxy-D-glucose conjugated iron oxide nanoparticles for biologic applications, Doctorate, Y.AKPINAR(Student), 2017
- GÜRAY N. T., AYDIN SON Y., Investigation of the in vitro cytotoxic effects of boron on human hepatocellular carcinoma cell line, HepG2, Postgraduate, H.ÇÖPOĞLU(Student), 2017
- VOLKAN M., GÜRAY N. T., Applications of the multifunctional magnetic nanoparticles for development of molecular therapies for the breast cancer, Doctorate, E.AŞIK(Student), 2015
- GÜRAY N. T., Antioxidant properties of salvia absconditiflora extracts and their effects on phase I and phase II gene expressions in HepG2 cell line, Doctorate, D.İRTEM(Student), 2015
- GÜRAY N. T., Effect of emodin on doxorubicin induced cytotoxicity and apoptosis in MCF-7 and MCF-10A cells, Postgraduate, B.KAYA(Student), 2014
- GÜRAY N. T., Studies on the molecular mechanism of the drug metabolism in prostate cancer, PC3 cell lines, Doctorate, D.DİLEK(Student), 2014
- GÜRAY N. T., The effect of Salvia absconditiflora extract on the gene expressions of GSTO1 and GSTZ1 in MCF-7 and MDA-MB-231 cells, Postgraduate, N.DENİZ(Student), 2013

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Systems biology based miRNA–mRNA expression pattern analysis of Emodin in breast cancer cell lines**
Sakalli-Tecim E., GÜR DEDEOĞLU B., GÜRAY N. T.
Pathology Research and Practice, vol.249, 2023 (SCI-Expanded)
- II. **Identification of Potential Therapeutic Genes and Pathways in Phytoestrogen Emodin Treated Breast Cancer Cell Lines via Network Biology Approaches**
Sakalli-Tecim E., Uyar-Arpaci P., GÜRAY N. T.
NUTRITION AND CANCER-AN INTERNATIONAL JOURNAL, vol.74, no.2, pp.592-604, 2022 (SCI-Expanded)
- III. **A pan-cancer transcriptomic study showing tumor specific alterations in central metabolism.**
Sheraj I., Guray N. T., Banerjee S.
Scientific reports, vol.11, no.1, pp.13637, 2021 (SCI-Expanded)
- IV. **In vitro effects of boric acid on human liver hepatoma cell line (HepG2) at the half-maximal inhibitory concentration**
Tombuloglu A., Copoglu H., AYDIN SON Y., GÜRAY N. T.
Journal of Trace Elements in Medicine and Biology, vol.62, 2020 (SCI-Expanded)
- V. **The potential application of gold-apoferritin nanocages conjugated with 2-amino-2-deoxy-glucose for imaging of breast cancer cells**
Aslan T. N., Asik E., Guray N. T., Volkan M.
JOURNAL OF BIOLOGICAL INORGANIC CHEMISTRY, vol.25, no.8, pp.1139-1152, 2020 (SCI-Expanded)
- VI. **EF2-kinase targeted cobalt-ferrite siRNA-nanotherapy suppresses BRCA1-mutated breast cancer**
Asik E., Akpınar Y., Caner A., Kahraman N., GÜRAY N. T., Volkan M., Albarracins C., Pataer A., Arun B., Ozpolat B.
NANOMEDICINE, vol.14, no.17, pp.2315-2338, 2019 (SCI-Expanded)
- VII. **Differential expressions and functions of phosphodiesterase enzymes in different regions of the rat heart**
DERİCİ M. K., SADİ G., Cenik B., Guray T., DEMİREL YILMAZ E.
EUROPEAN JOURNAL OF PHARMACOLOGY, vol.844, pp.118-129, 2019 (SCI-Expanded)

- VIII. **Cellular uptake and apoptotic potential of rhenium labeled magnetic protein cages in MDA-MB-231 cells**
Asik E., Aslan T. N., GÜRAY N. T., VOLKAN M.
ENVIRONMENTAL TOXICOLOGY AND PHARMACOLOGY, vol.63, pp.127-134, 2018 (SCI-Expanded)
- IX. **MODULATION OF CYTOCHROME P450s AND ANTIOXIDANT ENZYMES BY CAFFEIC ACID, p-COUMARIC ACID AND QUERCETIN-RICH ANATOLIAN PROPOLIS IN HUMAN ADENOCARCINOMA HT-29 CELLS**
ALTAY A., İrtem Kartal D., Sagdicoglu-Celep G., Guray T., Bozoglu F.
FRESENIUS ENVIRONMENTAL BULLETIN, vol.27, no.1, pp.336-345, 2018 (SCI-Expanded)
- X. **Modulation of mRNA expression and activities of xenobiotic metabolizing enzymes, CYP1A1, CYP1A2, CYP2E1, GPx and GSTP1 by the Salicornia freitagii extract in HT-29 human colon cancer cells**
ALTAY A., İrtem Kartal D., SADİ G., Guray T., YAPRAK A. E.
ARCHIVES OF BIOLOGICAL SCIENCES, vol.69, no.3, pp.439-448, 2017 (SCI-Expanded)
- XI. **2-Amino-2-deoxy-glucose conjugated cobalt ferrite magnetic nanoparticle (2DG-MNP) as a targeting agent for breast cancer cells**
Asik E., Aslan T. N., VOLKAN M., GÜRAY N. T.
ENVIRONMENTAL TOXICOLOGY AND PHARMACOLOGY, vol.41, pp.272-278, 2016 (SCI-Expanded)
- XII. **Cellular uptake, genotoxicity and cytotoxicity of cobalt ferrite magnetic nanoparticles in human breast cells**
Asik E., Akpınar Y., Guray T., İscan M., ÇAKMAK DEMİRCİGİL G., VOLKAN M.
TOXICOLOGY RESEARCH, vol.5, no.6, pp.1649-1662, 2016 (SCI-Expanded)
- XIII. **Regulation of Glutathione S-Transferase Mu with type 1 diabetes and its regulation with antioxidants**
SADİ G., Kartal D. I., Guray T.
TURKISH JOURNAL OF BIOCHEMISTRY-TURK BIYOKIMYA DERGISI, vol.38, no.1, pp.92-100, 2013 (SCI-Expanded)
- XIV. **Changes in expression profiles of antioxidant enzymes in diabetic rat kidneys**
SADİ G., Eryılmaz N., Tutuncuoğlu E., Cingir S., Guray T.
DIABETES-METABOLISM RESEARCH AND REVIEWS, vol.28, no.3, pp.228-235, 2012 (SCI-Expanded)
- XV. **Gene expressions of Mn-SOD and GPx-1 in streptozotocin-induced diabetes: effect of antioxidants**
Sadi G., Guray T.
MOLECULAR AND CELLULAR BIOCHEMISTRY, vol.327, pp.127-134, 2009 (SCI-Expanded)
- XVI. **Effect of vitamin C and lipoic acid on streptozotocin-induced diabetes gene expression: mRNA and protein expressions of Cu-ZnSOD and catalase**
Sadi G., Yılmaz O., Guray T.
MOLECULAR AND CELLULAR BIOCHEMISTRY, vol.309, pp.109-116, 2008 (SCI-Expanded)
- XVII. **Determination of airborne lead contamination in Cichorium intybus L In an urban environment**
Yakupoğlu D., GÜRAY N. T., Sarıca D. Y., KAYA Z.
Turkish Journal of Botany, vol.32, pp.319-324, 2008 (SCI-Expanded)
- XVIII. **Comparison of NAT1, NAT2 & GSTT2-2 activities in normal and neoplastic human breast tissues**
Geylan-SU Y., Işgor B., Coban T., Kapucuoglu N., Aydıntug S., İscan M., İscan M., Guray T.
NEOPLASMA, vol.53, no.1, pp.73-78, 2006 (SCI-Expanded)
- XIX. **Rapid monitoring of diabetes-induced lipid peroxidation by Fourier transform infrared spectroscopy: Evidence from rat liver microsomal membranes**
Severcan F., Gorgulu G., Gorgulu S., Guray T.
ANALYTICAL BIOCHEMISTRY, vol.339, no.1, pp.36-40, 2005 (SCI-Expanded)
- XX. **Arylamine N-acetyltransferase activities in human breast cancer tissues**
Geylan Y., Sak S., Guray T.
NEOPLASMA, vol.48, no.2, pp.108-111, 2001 (SCI-Expanded)
- XXI. **Production, purification and characterization of chitosanase from Penicillium spinulosum**
Ak O., Bakir U., Guray T.
BIOCHEMICAL ARCHIVES, vol.14, no.4, pp.221-225, 1998 (SCI-Expanded)
- XXII. **Characterization of extracellular beta-lactamases from penicillin G-resistant cells of Streptococcus thermophilus**

- Chirica L., Guray T., Gurakan G. C., Bozoglu F.
 JOURNAL OF FOOD PROTECTION, vol.61, no.7, pp.896-898, 1998 (SCI-Expanded)
- XXIII. **Sheep tissue acetyl coenzyme A-dependent arylamine N-acetyltransferases**
 Guray T., Guvenc T.
 COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY C-PHARMACOLOGY TOXICOLOGY & ENDOCRINOLOGY, vol.118, no.3, pp.305-310, 1997 (SCI-Expanded)
- XXIV. **Characterization of sheep liver N-acetyltransferase**
 Guray T., Guvenc T.
 BIOCHEMICAL ARCHIVES, vol.13, no.2, pp.107-111, 1997 (SCI-Expanded)
- XXV. **PRODUCTION OF SUPEROXIDE RADICALS BY SHEEP LIVER NITROFURANTOIN REDUCTASE - IN-VITRO EFFECTS OF NITROFURANTOIN METABOLITES ON DNA**
 ISCAN M., MODARESI M., GURAY T.
 TOXICOLOGY IN VITRO, vol.9, no.5, pp.743-742, 1995 (SCI-Expanded)
- XXVI. **INTERINDIVIDUAL VARIABILITY OF COUMARIN 7-HYDROXYLATION IN A TURKISH POPULATION**
 ISCAN M., ROSTAMI H., ISCAN M., GURAY T., PELKONEN O., RAUTIO A.
 EUROPEAN JOURNAL OF CLINICAL PHARMACOLOGY, vol.47, no.4, pp.315-318, 1994 (SCI-Expanded)
- XXVII. **PURIFICATION AND CHARACTERIZATION OF 2 FORMS OF SOLUBLE NADH CYTOCHROME-B5 REDUCTASES FROM HUMAN ERYTHROCYTES**
 ARINC E., GURAY T., SAPLAKOGLU U., ADALI O.
 COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY B-BIOCHEMISTRY & MOLECULAR BIOLOGY, vol.101, pp.235-242, 1992 (SCI-Expanded)
- XXVIII. **KINETIC-PROPERTIES OF PURIFIED SHEEP LUNG MICROSOMAL NADH-CYTOCHROME B5 REDUCTASE**
 GURAY T., ARINC E.
 INTERNATIONAL JOURNAL OF BIOCHEMISTRY, vol.23, no.11, pp.1315-1320, 1991 (SCI-Expanded)
- XXIX. **STIMULATORY EFFECTS OF BENZENE ON RABBIT LIVER AND KIDNEY MICROSOMAL CYTOCHROME-P-450 DEPENDENT DRUG-METABOLIZING-ENZYMES**
 ARINC E., ADALI O., ISCAN M., GURAY T.
 ARCHIVES OF TOXICOLOGY, vol.65, no.3, pp.186-190, 1991 (SCI-Expanded)
- XXX. **PURIFICATION OF NADH-CYTOCHROME-B5 REDUCTASE FROM SHEEP LUNG AND ITS ELECTROPHORETIC, SPECTRAL AND SOME OTHER PROPERTIES**
 GURAY T., ARINC E.
 INTERNATIONAL JOURNAL OF BIOCHEMISTRY, vol.22, no.9, pp.1029, 1990 (SCI-Expanded)

Refereed Congress / Symposium Publications in Proceedings

- I. **Network models for understanding boron-induced transcriptomics changes within HepG2 cell line**
 Tombuloğlu A., Çöpoğlu H., Güray N. T., Son Aydın Y.
 HIBIT2018 11th International Symposium on Health Informatics and Bioinformatics, Antalya, Turkey, 25 - 27 October 2018, pp.83-84
- II. **Genetic control of 4 coumarate coenzyme A ligase (4CL9 enzymes involved in lignin biosynthesis of European black poplar (Populus nigra L.)**
 TAŞKIRAN B., GÜRAY N. T., KAYA Z.
 XXVI Plant and Animal Genome Meeting, San Diego, United States Of America, 13 - 17 January 2018
- III. **Eucaryotic elongation factor 2kinaze is a novel therapeutic target in BRCA1 mutated breast cancer**
 VOLKAN M., GÜRAY N. T., Asik E., Lopez-Berestein G., Ozpolat B., Kahraman N.
 AACR, 1 - 05 April 2017, vol.77, pp.1125
- IV. **Changes in gene profile of human hepatocellular carcinoma cell line (HepG2) induced by boric acid at half mazimal inhibitory concentration (IC50).**
 TOMBULOĞLU A., ÇÖPOĞLU H., GÜRAY N. T., AYDIN SON Y.
 HIBIT 2017, Güzelyurt, Cyprus (Kktc), 28 - 30 June 2017

- V. **Expressions and functions of phosphodiesterase enzymes are different in different region of the rat heart**
Derici M. K., SADİ G., Cenik B., GÜRAY N. T., DEMİREL YILMAZ E.
7th European Congress of Pharmacology, 26 - 30 June 2016
- VI. **Effect of the bioactive components of salvia absconditiflora on gene expressions of HepG2 cell line**
İRTEM KARTAL D., SADİ G., GÜRAY N. T.
FEBS, 4 - 09 September 2015, vol.282, pp.265-266
- VII. **antioxidant activities of salvia fructosa and its effects on HT 29 cell line**
ALTAY A., İRTEM KARTAL D., SAĞDIÇOĞLU CELEP A. G., GÜRAY N. T., BOZOĞLU T. F.
FEBS, 4 - 09 September 2015, vol.282, pp.269-270
- VIII. **Antioxidant activitis of Salvia fruticosa and its effects on HT-29 cell line**
Altay A., Kartal D. I., Celep G. S., GÜRAY N. T., Bozoglu F. T.
40th Congress of the Federation-of-European-Biochemical-Societies (FEBS) - The Biochemical Basis of Life, Berlin, Germany, 4 - 09 July 2015, vol.282, pp.269-270
- IX. **Effect of the bioactive components of Salvia absconditiflora on gene expressions of HepG2 cell line**
Kartal D. I., SADİ G., GÜRAY N. T.
40th Congress of the Federation-of-European-Biochemical-Societies (FEBS) - The Biochemical Basis of Life, Berlin, Germany, 4 - 09 July 2015, vol.282, pp.265-266
- X. **Antioxidant activities of propolis and its bioactive components and their effects on CYP1A1 gene expression in HT 29 adenocarcinoma cell line**
İRTEM KARTAL D., ALTAY A., YURTERİ G., GÜRAY N. T.
13th European ISSX meeting, 22 - 25 June 2015
- XI. **Effect of phytoestrogen emodin on doxorubicin-induced cytotoxicity and apoptosis on tumorigenic MCF-7 and non-tumorigenic MCF-10A human breast cells**
UYAR P., KAYA B., Guray T. N.
FEBS EMBO 2014 Conference, Paris, France, 30 August - 04 September 2014, vol.281, pp.458-459
- XII. **The effects of Salvia absconditiflora water extract on HepG2 liver cell line**
Kartal D. I., Sadi G., Guray T. N.
FEBS EMBO 2014 Conference, Paris, France, 30 August - 04 September 2014, vol.281, pp.606
- XIII. **Effect of antioxidants on hepatic cytochrome P450 gene expressions in streptozotocin induced diabetes**
Sadi G., Guray T.
34th Congress of the Federation-of-European-Biochemical-Societies, Prague, Czech Republic, 4 - 09 July 2009, vol.276, pp.387
- XIV. **N-acetyl transferase (NAT1&NAT2) and glutathione-S transferase (GSTM1&GSTT1) polymorphisms in breast cancer**
Guray T., Atalay A., Su Y. S., Altinbas M., Atalay M. A.
31st Congress of the Federation-of-European-Biochemical-Societies (FEBS), İstanbul, Turkey, 24 - 29 June 2006, vol.273, pp.326-327
- XV. **The effects of streptozotocin induced diabetes on some oxidative biomarkers of rat liver**
Sadi G., Gorgulu G., Guray T.
31st Congress of the Federation-of-European-Biochemical-Societies (FEBS), İstanbul, Turkey, 24 - 29 June 2006, vol.273, pp.171
- XVI. **Isolation of a chitosan degrading fungus, Penicillium spinulosum, and chitosanase production by the isolate**
Ak O., Bakir U., Guray T.
International Symposium on New Frontiers in Screening for Microbial Biocatalysts, Ede, Netherlands, 15 - 18 December 1996, vol.53, pp.265-268
- XVII. **COUMARIN 7-HYDROXYLATION (CYP2A6) POLYMORPHISM IN A TURKISH POPULATION**
ISCAN M., ROSTAMI H., ISCAN M., GURAY T., RAUTIO A., PELKONEN O.
8th International Conference on Cytochrome P450: Biochemistry, Biophysics and Molecular Biology, Lisbon,

Supported Projects

- GÜRAY N. T., EDA AKYILDIZ Z., Project Supported by Higher Education Institutions, AMP-AKTİVE EDİCİ PROTEİN KİNAZ YOLAĞININ MEME KANSERİNDEKİ (MCF-7 HÜCRELERİNDEKİ) ROLÜ, 2018 - 2019
- ADALI O., AKKULAK M., DURUKAN Ö., EVİN E., GÜRAY N. T., Project Supported by Higher Education Institutions, Hekzokinaz II proteininin prostat kanseri hücre hatlarındaki ekspresyonunun antidiyabet ve antikanser ilaç kombinasyonlarına bağlı değişimi, 2018 - 2019
- GÜRAY N. T., ADALI O., SARAÇ B. E., ÇÖPOĞLU H., EVİN E., Project Supported by Higher Education Institutions, Bor'un toksik etki mekanizmalarının in vitro düzeyinde araştırılması., 2017 - 2017
- GÜRAY N. T., Project Supported by Higher Education Institutions, FERRİTİN KAFES İÇİNE YERLEŞTİRİLMİŞ GADOLİNYUM OKSİT NANOPARÇACIKLARIN SİTOTOKSİSİTESİ, 2017 - 2017
- GÜRAY N. T., Project Supported by Higher Education Institutions, EMODİNİN MEME HÜCRE HATLARINDAKİ ENTEGRE ANALİZİ, 2017 - 2017
- GÜRAY N. T., Project Supported by Higher Education Institutions, BOR'UN SİTOTOKSİK ETKİLERİNİN İN VİTRO OLARAK İNSAN HEPATOSİT KARSİNOMA HÜCR HATTI HEPG2'LERDE ARAŞTIRILMASI, 2017 - 2017
- GÜRAY N. T., ADALI O., Project Supported by Higher Education Institutions, ODTÜ Kampüsü'nde bulunan endemik bir tür olan *Salvia absconditiflora* (adaçayı) bitkisinin antimikrobiyal, antioksidan ve sitotoksik etkilerinin incelenmesi., 2016 - 2016
- GÜRAY N. T., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2016
- GÜRAY N. T., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2016
- GÜRAY N. T., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2016
- ADALI O., ÇULCU T., Şen A., GÜRAY N. T., Project Supported by Higher Education Institutions, Yerel tıbbi bitki *Viscum album L.*'un safra asit sentez ve metabolizmasından sorumlu sitokrom P450 7A1 ve 27A1 enzimlerine etkilerinin moleküler düzeyde incelenmesi, 2015 - 2015
- GÜRAY N. T., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2015
- ADALI O., GÜRAY N. T., Project Supported by Higher Education Institutions, Doğal olarak bulunan ellajik asit, kuersetin, naringenin, resveratrol, rutin ve hesperidin gibi polifenolik bileşiklerin ilaç metabolizmasında rol oynayan Glutasyon S-Transferaz ve NAD(P):Kuinon Oksidoredüktaz 1 enzim aktiviteleri üzerine etkileri, 2013 - 2014

Scientific Refereeing

TUBITAK Project, 1002 - Quick Support Program, Middle East Technical University, Turkey, May 2018

Metrics

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Citation (WoS): 468

Citation (Scopus): 431

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H-Index (Scopus): 10