

## Assoc. Prof. MUHAMMED KASIM DİRİL

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: GWZ-8547-2022

ScopusID: 6505942966

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### Education Information

Doctorate, Georg-August-Universität Göttingen, Mathematics and Natural Sciences Faculties, International Max Planck Research School, Germany 2000 - 2005

Undergraduate, Bogazici University, Faculty Of Arts And Sciences, Department Of Molecular Biology And Genetics, Turkey 1996 - 2000

### Foreign Languages

German, C1 Advanced

English, C2 Mastery

### Dissertations

Doctorate, Genetic analysis of stoned B/stonin 2 function in vivo, Georg August Universität Göttingen, Moleküler Biyoloji, 2005

### Research Areas

Molecular Biology and Genetics, Genetic Disorders, Genetic Engineering, Animal Molecular Genetics

### Academic Titles / Tasks

Associate Professor, Dokuz Eylül University, İzmir Uluslararası Biyotıp ve Genom Enstitüsü, Department Of Genomics And Molecular Biotechnology, 2017 - Continues

Associate Professor, Dokuz Eylül University, Tıp Fakültesi, Temel Tıp Bilimleri Bölümü, 2014 - Continues

### Courses

Advanced Molecular and Cell Biology, Doctorate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017  
Specialized Field, Postgraduate, 2022 - 2023, 2018 - 2019, 2017 - 2018, 2016 - 2017  
Genetically Modified Animal Models, Doctorate, 2021 - 2022  
PHILOSOPHY OF SCIENCE AND ETHICS, Doctorate, 2018 - 2019  
TEMEL MOLEKÜLER BİYOLOJİK YÖNTEMLER I, Postgraduate, 2017 - 2018  
KANSERİN MOLEKÜLER TEMELLERİ, Postgraduate, 2016 - 2017, 2015 - 2016  
MOLEKÜLER GENETİK, Postgraduate, 2015 - 2016, 2014 - 2015

## Advising Theses

Diril M. K., Investigation of miRNAs regulating therapy response in Hepatocellular Carcinoma, Doctorate, E.BAĞIRSAKÇI(Student), 2024  
Diril M. K., Functional Validation of Candidate Genes Associated with Inherited Neurodevelopment Diseases, Doctorate, S.Kılıç(Student), 2023  
Diril M. K., CENP-A amino terminalinin epigenetik fonksiyonlarının in vivo araştırılması, Postgraduate, T.ŞEHİTOĞULLARI(Student), 2022  
Diril M. K., Nadir genetik hastalık araştırmaları için genetiği değiştirilmiş fare modellerinin geliştirilmesi, Postgraduate, G.ÖZTÜRK(Student), 2022  
DİRİL M. K., Mitotik kinaz fonksiyonlarının kimyasal genetik yaklaşımlarla incelenmesi, Postgraduate, M.ERGÜVEN(Student), 2019  
DİRİL M. K., Rekombinant hODF ekstrasellüler domain'in moleküler klonlanması ve üretimi, Postgraduate, M.MEMON(Student), 2019

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Development of a mouse embryonic stem cell model for investigating the functions of the linker histone H1-4.**  
Abu Alhaija A. A., Lone I. N., Ozkuru Sekeroglu E., Batur T., Angelov D., Dimitrov S., Hamiche A., Firat Karalar E. N., Ercan M. E., Yagci T., et al.  
FEBS open bio, 2023 (SCI-Expanded)
- II. **Genetic dissection of the Mastl-Arpp19/Ensa-PP2A-B55δ pathway in mammalian cells**  
Diril M. K., Erguven M.  
TURKISH JOURNAL OF BIOCHEMISTRY, vol.48, no.2, pp.1-13, 2023 (SCI-Expanded)
- III. **Genetic complementation screening and molecular docking give new insight on phosphorylation-dependent Mastl kinase activation.**  
Erguven M., Kilic S., Karaca E., Diril M. K.  
Journal of biomolecular structure & dynamics, pp.1-13, 2022 (SCI-Expanded)
- IV. **How Far Are We from the Rapid Prediction of Drug Resistance Arising Due to Kinase Mutations?**  
Erguven M., Karakulak T., Diril M. K., KARACA EREK E.  
ACS OMEGA, vol.6, no.2, pp.1254-1265, 2021 (SCI-Expanded)
- V. **Premature activation of Cdk1 leads to mitotic events in S phase and embryonic lethality**  
Szymd R., Niska-Blakie J., DİRİL M. K., Nunes P. R., Tzelepis K., Lacroix A., van Hul N., Deng L., Matos J., Dreesen O., et al.  
ONCOGENE, vol.38, no.7, pp.998-1018, 2019 (SCI-Expanded)
- VI. **Emi2 Is Essential for Mouse Spermatogenesis**  
Gopinathan L., Szymd R., Low D., DİRİL M. K., Chang H., Coppola V., Liu K., Tessarollo L., Guccione E., van Pelt A. M. M., et al.  
CELL REPORTS, vol.20, no.3, pp.697-708, 2017 (SCI-Expanded)

- VII. **Inhibitory phosphorylation of Cdk1 mediates prolonged prophase I arrest in female germ cells and is essential for female reproductive lifespan**  
 Adhikari D., Busayavalasa K., Zhang J., Hu M., Risal S., Bayazit M. B., Singh M., DİRİL M. K., Kaldis P., Liu K.  
 CELL RESEARCH, vol.26, no.11, pp.1212-1225, 2016 (SCI-Expanded)
- VIII. **Loss of the Greatwall Kinase Weakens the Spindle Assembly Checkpoint**  
 Diril M. K., Bisteau X., Kitagawa M., Caldez M. J., Wee S., Gunaratne J., Lee S. H., Kaldis P.  
 PLOS GENETICS, vol.12, no.9, 2016 (SCI-Expanded)
- IX. **Cdk2 catalytic activity is essential for meiotic cell division in vivo**  
 Chauhan S., DİRİL M. K., Lee J. H. S., Bisteau X., Manoharan V., Adhikari D., Ratnacaram C. K., Janela B., Noffke J., Ginhoux F., et al.  
 BIOCHEMICAL JOURNAL, vol.473, pp.2783-2798, 2016 (SCI-Expanded)
- X. **Molecular Mechanisms of Hepatocellular Carcinoma**  
 ALOTAİBİ H., Atabey N., DİRİL M. K., ERDAL BAĞRIYANIK Ş. E., Ozturk M.  
 HEPATOCELLULAR CARCINOMA: DIAGNOSIS AND TREATMENT, 3RD EDITION, pp.43-63, 2016 (SCI-Expanded)
- XI. **Mastl is required for timely activation of APC/C in meiosis I and Cdk1 reactivation in meiosis II**  
 Adhikari D., DİRİL M. K., Busayavalasa K., Risal S., Nakagawa S., Lindkvist R., Shen Y., Coppola V., Tessarollo L., Kudo N. R., et al.  
 JOURNAL OF CELL BIOLOGY, vol.206, no.7, pp.843-853, 2014 (SCI-Expanded)
- XII. **Identification of Transcriptional and Metabolic Programs Related to Mammalian Cell Size**  
 Mletinen T. P., Pessa H. K. J., Caldez M. J., Fuhrer T., DİRİL M. K., Sauer U., Kaldis P., Bjoerklund M.  
 CURRENT BIOLOGY, vol.24, no.6, pp.598-608, 2014 (SCI-Expanded)
- XIII. **Compromised fidelity of endocytic synaptic vesicle protein sorting in the absence of stonin 2**  
 Kononenko N. L., DİRİL M. K., Puchkov D., Kintscher M., Koo S. J., Pfuhl G., Winter Y., Wienisch M., Klingauf J., Breustedt J., et al.  
 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, vol.110, no.6, 2013 (SCI-Expanded)
- XIV. **Cyclin-dependent kinase 1 (Cdk1) is essential for cell division and suppression of DNA re-replication but not for liver regeneration**  
 DİRİL M. K., Ratnacaram C. K., Padmakumar V. C., Du T., Wasser M., Coppola V., Tessarollo L., Kaldis P.  
 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, vol.109, no.10, pp.3826-3831, 2012 (SCI-Expanded)
- XV. **Lysosomal localization of GLUT8 in the testis - the EXXXLL motif of GLUT8 is sufficient for its intracellular sorting via AP1-and AP2-mediated interaction**  
 DİRİL M. K., Schmidt S., Krauss M., Gawlik V., Joost H., Schuermann A., Haucke V., Augustin R.  
 FEBS JOURNAL, vol.276, no.14, pp.4153-4167, 2009 (SCI-Expanded)
- XVI. **Stonin 2 is an AP-2-dependent endocytic sorting adaptor for synaptotagmin internalization and recycling**  
 DİRİL M. K., Wienisch M., Jung N., Klingauf J., Haucke V.  
 DEVELOPMENTAL CELL, vol.10, no.2, pp.233-244, 2006 (SCI-Expanded)
- XVII. **Functional dissection of the interactions of stonin 2 with the adaptor complex AP-2 and synaptotagmin**  
 Walther K., DİRİL M. K., Jung N., Haucke V.  
 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, vol.101, no.4, pp.964-969, 2004 (SCI-Expanded)
- XVIII. **Human stoned B interacts with AP-2 and synaptotagmin and facilitates clathrin-coated vesicle uncoating**  
 Walther K., Krauss M., DİRİL M. K., Lemke S., Ricotta D., Honing S., Kaiser S., Haucke V.  
 EMBO REPORTS, vol.2, no.7, pp.634-640, 2001 (SCI-Expanded)

## Books & Book Chapters

### I. **Molecular Mechanisms of Hepatocellular Carcinoma**

Alotaibi H., Atabey S. N., Diril M. K., Erdal Baęrıyanık Ő. E., Öztürk M.

in: Hepatocellular Carcinoma Diagnosis and Treatment, Brian I Carr, Editor, Springer International Publishing, Zürich, pp.43-63, 2016

## Refereed Congress / Symposium Publications in Proceedings

### I. **Transgenik hayvan modelleri**

Diril M. K.

VIII. Türkiye in vitro diyagnostik sempozyumu, İzmir, Turkey, 29 November - 01 December 2023

### II. **Development of genetically engineered mice for modeling rare neurodevelopmental disorders**

Diril M. K.

GEMSTONE Project's 1st Dissemination Event: Regional Symposium Neurodevelopmental aspects of brain disorders & genetically engineered models, İstanbul, Turkey, 3 - 04 October 2023

### III. **Genetięi deęiřtirilmiř fare modelleri**

Diril M. K.

BIO Türkiye Uluslararası Biyoteknoloji Kongresi 2023, İstanbul, Turkey, 28 - 30 September 2023

### IV. **Generation and Phenotypic Characterization of a Transgenic Mouse Model for a Neurodevelopmental Rare Genetic Disorder**

Kılıç S., Hız A. S., Esmen K., Karakölah G., Öztürk M., Diril M. K.

47th FEBS Congress, Tours, France, 8 - 12 July 2023, vol.13, pp.246

### V. **Generation of a mouse model for a novel neurodevelopmental rare genetic disorder**

Diril M. K.

8th International Congress of the Molecular Biology Association of Turkey, İstanbul, Turkey, 9 - 12 June 2022

### VI. **Assessment of webserver in the prediction of point mutations' impact on kinase:ligand interactions**

Ergüven M., Karakulak T., Diril M. K., Karaca Ere E.

HIBIT 2019, İzmir, Turkey, 17 - 19 October 2019, pp.233-234

### VII. **Loss of the Mastl kinase weakens the spindle assembly checkpoint**

DİRİL M. K.

Bilkent Üniversitesi Moleküler Biyoloji ve Genetik Bölümü Seminerleri, Ankara, Turkey, 14 December 2016

### VIII. **Targeting cell cycle in liver tumors**

Diril M. K.

Second world conference on targeting liver disease, Valletta, Malta, 25 - 26 June 2015, pp.1

### IX. **PLASTIC MODULATION OF NEUROTRANSMISSION BY ENDOCYTIC SORTING OF SYNAPTIC VESICLE PROTEINS**

Haucke V., Kononenko N., Sakaba T., DİRİL M. K., Kintscher M., Schmoranz J., Koo S. J., Pfuhl G.

SCHIZOPHRENIA RESEARCH, United States Of America, 01 April 2012, vol.136, pp.15

## Other Publications

### I. **Enzimin Açma Kapama Düęmesi**

Diril M. K., Ergüven M.

Other, pp.1, 2017

## Supported Projects

Koçer Z. A., DİRİL M. K., TUBITAK Project, Korunma ve Tedavi Ulusal Platformu, 2023 - 2027

Diril M. K., Esmen K., Erdal Bağriyanik Ş. E., Arslan N., Research Project of the Presidency of Turkey Health Institutes (TÜSEB), İnsanlaştırılmış karaciğer modeli FRG knockout farelerin üretimi, 2023 - 2025

Diril M. K., Alotaibi H., Lone I. N., Anguelov D., Dimitrov S. I., TÜBİTAK International Bilateral Joint Cooperation Program Project, Sağlıkta ve Rahman Sendromunda Bağlayıcı Histon H1E, 2022 - 2024

Diril M. K., Esmen K., Yalçın A., Eren Koçak E., Bağriyanik H. A., Sever Bahçekapılı M., Şentürk Ş., TUBITAK Project, Nörogelişimsel Bir Nadir Genetik Hastalık İçin Transgenik Fare Modeli Geliştirilmesi Ve Fenotipik Karakterizasyonu: Atg9B Mutasyonu, 2022 - 2024

Diril M. K., Yalçın A., Güler S., TUBITAK Project, Identification of Metabolic Genes That Exhibits Synthetic Lethal Interaction with 6-Phosphofructo-2-Kinase/Fruktose-2,6-Bisfosfatase-2 in Pancreatic Ductal Adenocarcinoma Cells, 2022 - 2024

Diril M. K., Güzel S., Çeçener G., Güler S., Yalçın A., TUBITAK Project, Pankreas Kanserinin Glutaminaz İnhibisyonuna Duyarlılığında 6-Fosfofrukto-2-Kinaz/Fruktoz-2,6-Bisfosfat-2'nin Etkisinin Araştırılması, 2019 - 2023

Diril M. K., Kılıç S., TUBITAK Project, ATG9B Çerçeve Kayması Mutasyonunun İşlevsel Karakterizasyonu, 2021 - 2022

Diril M. K., Esmen K., TUBITAK Project, Transgenik fare modellerinin yerel üretimi için yöntem geliştirilmesi, 2020 - 2022

Ayar Kayalı H., Tunçok Y., Bağriyanik H. A., Alotaibi H., Güneli M. E., Diril M. K., Öztürk M., Şentürk Ş., TUBITAK Project, Development of a Biosimilar Monoclonal Antibody for the Treatment of Cancer and Osteoporosis, 2016 - 2022

Diril M. K., TÜBA Project, Mitoz bölünmenin uzay-zamansal regülasyonunun analog-duyarlı kinazlar aracılığıyla incelenmesi, 2017 - 2020

Diril M. K., Karaman S., TUBITAK Project, Mastl kinaz fonksiyonlarının kimyasal genetik metodlarla incelenmesi, 2018 - 2019

DİRİL M. K., Project Supported by Other Official Institutions, ENSA ve Arpp19 proteinlerinin mitotik fonksiyonlarının incelenmesi, 2018 - 2019

DİRİL M. K., Project Supported by Higher Education Institutions, Mastl kinazın mitotik fonksiyonlarının kimyasal genetik yöntemlerle analizi, 2016 - 2019

Diril M. K., TUBITAK Project, Farelerde kuyruk toplardamarından DNA enjeksiyonu ve CRISPR CAS9 genom mühendisliği yöntemleriyle karaciğer kanserinin modellenmesi, 2015 - 2017

## Activities in Scientific Journals

FRONTIERS IN CELL AND DEVELOPMENTAL BIOLOGY, Editor, 2023 - Continues

## Memberships / Tasks in Scientific Organizations

Turkish Biochemical Society, Member, 2021 - Continues, Turkey

Moleküler Biyoloji Derneği, Member, 2015 - Continues, Turkey

## Scientific Refereeing

TURKISH JOURNAL OF BIOLOGY, Journal Indexed in SCI-E, December 2022

TURKISH JOURNAL OF ZOOLOGY, Journal Indexed in SCI-E, May 2019

## Metrics

Publication: 32

Citation (WoS): 902

Citation (Scopus): 944

H-Index (WoS): 13

H-Index (Scopus): 13

### **Congress and Symposium Activities**

International Biochemistry Congress 2022, Attendee, İzmir, Turkey, 2022

### **Scholarships**

Georg-Christoph Lichtenberg Stipendium, Official Institutions of Foreign Countries, 2002 - 2005