

Sinem YILMAZ

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EDUCATION

<u>Institute</u>	<u>Department</u>	<u>Degree</u>	<u>Year</u>
Ege University, Graduate School of Natural and Applied Science, Izmir, Turkey	Biotechnology	Ph.D	2017-2023
Ege University, Graduate School of Natural and Applied Science, Izmir, Turkey	Bioengineering	MSc.	2013 – 2015
Ege University, Faculty of Engineering, Izmir, Turkey	Bioengineering	B.Sc.	2007 – 2011

ACADEMIC APPOINTMENTS

<u>Institution, Department</u>	<u>Rank</u>	<u>Years</u>
Ege University, Graduate School of Natural and Applied Science	Research Assistant	04/2017-07/2023

HONORS

1. EMBO Travel Grant for 20S proteasome degradation pathway, Israel, Rehovot, 2023.
2. SFRR-Europe/OCC travel grant for Redox Alterations and Cellular Responses: From Signaling to Interventions, Society for Free Radical Research Europe, Greece, Spetses, 2022.
3. Best Oral Presentation Award, 2nd International Conference on Natural Products for Cancer Prevention and Therapy, Turkey (2017).

PUBLICATIONS

THESIS

“*Investigation cytotoxicity and seconder metabolites of Veratum album plant*”, Ege University, Graduate School of Natural and Applied Science, MSc Thesis title, Turkey, 2015, Advisor: Prof. Dr. Erdal BEDİR

“*Investigation of anti-aging and neuroprotective potentials of telomerase activator cycloastragenol and its derivatives on NRF2 and proteasome systems*”, Ph.D. Thesis title., Turkey, Advisor: Prof. Dr. Petek Ballar Kırmızıbayrak.

REFEREED PAPERS (ORIGINAL WORK)

1. Küçüksolak M, **Yılmaz S**, Ballar-Kırmızıbayrak P & Bedir E, Potent telomerase activators from a novel sapogenin via biotransformation utilizing *Camarosporium laburnicola*, an endophytic fungus, *Microbial Cell Factories* volume, 2023, 22, Article number: 66.
2. Tatar İ, Uysal Ş, **Yılmaz S**, Tarikogullari A, Ballar-Kirmizibayrak P, Soyer Z, Design, synthesis, and biological evaluation of some novel naphthoquinone-glycine/ β -alanine anilide derivatives as noncovalent proteasome inhibitors, *Chemical Biology&Drug Desing*, 2023, 101 (6), 1283-1298.
3. **Yılmaz S.**, Bedir E. & Kirmizibayrak-Ballar P., The role of cycloastragenol at the intersection of NRF2/ARE, telomerase, and proteasome activity, *Free Radical Biology and Medicine*, 2022, 0891-5849, 188.
4. İlhan, R., Üner G., **Yılmaz S.**, Sahar-Atalay E., Çaylı S., Erzurumlu Y., Gözen O., & Kirmizibayrak-Ballar P, Novel regulation mechanism of adrenal cortisol and DHEA biosynthesis via the endogen ERAD inhibitor small VCP-interacting protein, *Scientific Reports*, 2022, 20452322, 12.
5. **Yılmaz S.**, Alkan T., & Kirmizibayrak-Ballar P., A new underlying mechanism for the neuroprotective effect of bosutinib: Reverting toxicity\u2010induced PARylation in SIN1\u2010mediated neurotoxicity, *Journal of Biochemical and Molecular Toxicology*, 2021, 1095-6670", "1099-0461.
6. Uysal Ş., Soyer Z, Saylam M., Doğan Tarıkoğulları A.H., **Yılmaz S.**, & Kirmizibayrak-Ballar P., Design, synthesis and biological evaluation of novel naphthoquinone-4-aminobenzensulfonamide/carboxamide derivatives as proteasome inhibitors, *European Journal of Medicinal Chemistry*, 2021, 0223- 5234.
7. **Yılmaz S.**, Tok F., Sahar-Atalay E, Kaymakcıoğlu B. & P Kirmizibayrak-Ballar P., Induction of Divergent Cell Death Pathways by Urea and Carbohydrazide Derivatives, *Anti-Cancer Agents in Medicinal Chemistry*, 2021, 1871-5206, 21.
8. Saylam M., Doğan Tarıkoğulları A.H., **Yılmaz S.** & Kirmizibayrak-Ballar P., Neuroprotective activity studies of some phenylacetamide derivatives bearing 1H-pyrazole or 1H-1,2,4-triazole, *Bioorganic and Medicinal Chemistry Reports*, 2021, 2667-6028.
9. Güzel Ö., Duman S., **Yılmaz S.**, Karakoyun Ç., Kul D., Pirhan A.F. & Bedir E., Screening of cytotoxicity and DNA topoisomerase IIa inhibitory activity of Turkish *Onosma* species, *TURKISH JOURNAL OF BOTANY*, 2021, 1300-008X, 45.
10. Duman S., Ekiz G., **Yılmaz S.**, Yusufoglu H., Kirmizibayrak-Ballar P & Bedir E, Telomerase activators from 20(27)-octanor-cycloastragenol via biotransformation by the fungal endophytes, *Bioorganic Chemistry*, 2021, 0045- 2068, 109.
11. Tok F., Kaymakcıoğlu B., İlhan R., **Yılmaz S.**, Kirmizibayrak-Ballar P & Taşkın-Tok T., TOK, Design, synthesis, biological evaluation and molecular docking of novemolecules toto PARP-1 enzyme, *TURKISH JOURNAL OF CHEMISTRY*, 2019, 1300-0527, 43, 5, 1290-1305

12. Khan N., **Yılmaz S.**, Aksoy S., Uzel A., Tosun Ç., Kirmizibayrak-Ballar P. & Bedir E., Polyethers isolated from the marine actinobacterium *Streptomyces cacaoi* inhibit autophagy and induce apoptosis in cancer cells, *Chemico-Biological Interactions*, 2019, 00092797, 307, 167-178.
13. Ekiz G, **Yılmaz S.**, Yusufoglu H., Kirmizibayrak-Ballar P & Bedir E., Microbial Transformation of Cycloastragenol and Astragenol by Endophytic Fungi Isolated from *Astragalus* species, *JOURNAL OF NATURAL PRODUCTS*, 2019, 0163-3864, 82, 11, 2979-2985.
14. Kirmizibayrak-Ballar P, İlhan R., **Yılmaz S.**, Günel S., Erbaykent B., A Src/Abl kinase inhibitor, bosutinib, downregulates and inhibits PARP enzyme and sensitizes cells to the DNA damaging agents, *TURKISH JOURNAL OF BIOCHEMISTRY-TURK BIYOKIMYA DERGISI*, 2018, 0250-4685, 43, 2, 101-109.

PATENT APPLICATION

“SYNTHESIS METHOD OF TELOMERASE ACTIVATORS AND TELOMERASE ACTIVATOR MOLECULES OBTAINED USING THIS METHOD/ TELOMERAZ AKTİVATÖRLERİNİN ÜRETİM YÖNTEMİ VE BU YÖNTEMLE ELDE EDİLEN TELOMERAZ AKTİVATÖRLERİ”, Inventors: Petek Ballar Kirmizibayrak, Erdal Bedir, **Sinem Yılmaz**, Güner Ekiz, Seda Duman, Melis Küçüksolak. TPE Application number: 2017- GE-398510; File number:2017/14942., **WO2019/070219 A2**.

REFEREED CONGRESS / SYMPOSIUM PUBLICATIONS IN PROCEEDINGS

1. **Yılmaz S.**, Küçüksolak M., Ballar-Kirmizibayrak P., Bedir E., (2023). Identification of novel Cycloastragenol derivatives as potent NRF2 activators that delay replicative senescence. The 20S proteasome degradation pathway, EMBO Workshop, (oral presentation).
2. **Yılmaz S.**, Bedir E., Kirmizibayrak-Ballar, Petek, (2022), THE PROTEASOME ACTIVATOR OF CYCLOASTRAGENOL IS DEPENDENT ON THE NRF-2 MEDIATED INDUCTION OF TELOMERASE ACTIVITY, Proteocure COST meeting, Slovenia, Ljubljana (Oral presentation)
3. **Yılmaz S.**, Bedir E., Kirmizibayrak-Ballar, Petek, (2022), The proteasome activatory property of Cycloastragenol is dependent on the Nrf-2 mediated induction of telomerase activity. Redox Alterations and Cellular Responses: From Signalling to Interventions, FEBS Advanced course
4. Küçüksolak M., Ekiz G., Duman S., **Yılmaz S.**, Ballar, P., Bedir E. (2019). Telomerase activators derived from *Astragalus* sapogenins via biotransformation with the recently discovered endophytic fungus *Camarosporium laburnicola*. *PLANTA MEDICA*, 85(18), 1451-1451., Doi: 10.1055/s-0039-3399802 (Poster)
5. Kul D., Karakoyun Ç., **Yılmaz S.**, Pirhan A.F., Bedir E. (2019). Bioassay Guided Isolation of Naphthoquinones from *Onosma aksoyii*, Investigation of Their Cytotoxic Properties. 67th International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research (poster).
6. **Yılmaz S.**, Khan N., Çetinel Aksoy S., Uzel A., Tosun Ç., Ballar Kirmizibayrak P., Bedir E.,

(2018). “Polyethers compounds isolated from the marine actinobacterium Streptomyces cacaoi induce apoptosis and inhibit autophagy in several cancer cell lines”, 2nd International Cell Death Research Congress, İzmir, Turkey (poster).

7. Saylam M., **Yilmaz S.**, Parlar S., Tarikoğulları Doğan A. H. (2018). “Neuroprotective Evaluation of Some Phenylacetamide Derivatives Bearing 1,2,4-triazole with Metal Binding Property “, MuTaLig COST ACTION CA15135 Third Annual Meeting 2018, Valletta, Malta (poster).

8. Erzurumlu, Y., Tag, O., **Yilmaz, S.**, Ballar, P., Bedir, E. (2017) “Effect of a new Sapogenol Derivative (A7) on Cell Death via Necrosis” 2nd International Conference on Natural Products for Cancer Prevention and Therapy, Türkiye (oral)

9. Gunal, S., Ilhan, R., **Yilmaz, S.**, Erbaykent-Tepedelen, B., Ballar Kirmizibayrak, P.*, (2017) “Yeni PARP inhibitor bileşiklerin taranması/ Screening for novel PARP inhibitor compounds” XV. National Medical Biology Congress, Türkiye (poster)

10. Gunal, S., Ilhan, R., **Yilmaz, S.**, Erbaykent-Tepedelen, B., Ballar Kirmizibayrak, P.*, “Yeni PARP inhibitor bileşiklerin taranması/ Screening for novel PARP inhibitor compounds” (2017). XV. National Medical Biology Congress, Turkey (poster)

RESEARCH PROJECTS

1. **Ege University Research Fund, (Researcher)**, “Investigation of the Protective Effect of 3,4-lacto Derivative (3,4-lacto Cycloastragenol) of Cycloastragenol Molecule Against Experimental Lung Fibrosis Model Induced by Bleomycin in mice”, (2019-2021)

2. **TUBİTAK, 119Z086 (Scholarship)**, “Investigation of anti-aging and neuroprotective potentials of telomerase activator cycloastragenol and its derivatives on Nrf-2 and proteasome systems “. (2019-2023). (**Ph.D. thesis**).

MEMBERSHIPS IN SCIENTIFIC ORGANIZATIONS

1. Recognized Scientific Organization, International Cell Senescence Association, Member, Denmark, 2022 -

2. Recognized Scientific Organization, Society for Free Radical Research - Europe, Member, England, 2022 -

3. Professional Association, Turkish Biochemistry Association, Member, 2021 –