

## **Asst. Prof. ZEYNEP BETTS**

### **Personal Information**

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### **International Researcher IDs**

ORCID: 0000-0003-2391-7543

ScopusID: 56593262800

Yoksis Researcher ID: 103720

### **Education Information**

Doctorate, The University of Manchester, Faculty Of Life Sciences, United Kingdom 2008 - 2012

Postgraduate, Middle East Technical University, Graduate School Of Natural And Applied Sciences, Biyoteknoloji (YI) (Tezli), Turkey 2005 - 2007

Undergraduate, Ankara University, Fen Fakültesi, Biyoloji Bölümü, Turkey 2001 - 2005

### **Dissertations**

Doctorate, Assessment of the influence of chromatin elements on stability of recombinant protein production in amplified CHO cells, The University Of Manchester, Faculty Of Life Sciences, 2012

Postgraduate, Polymerase chain reaction (PCR) for detection of Borrelia burgdorferi sensu lato, Orta Doğu Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Biyoteknoloji (YI) (Tezli), 2007

### **Research Areas**

Bioinformatics, Biotechnology, Molecular Biology and Genetics

### **Academic Titles / Tasks**

Assistant Professor, Kocaeli University, Fen Edebiyat Fakültesi, Biyoloji, 2017 - Continues

Research Assistant, Kocaeli University, Biyoloji Bölümü, 2013 - 2017

### **Academic and Administrative Experience**

Erasmus Coordinator, Kocaeli University, Fen Edebiyat Fakültesi, Biyoloji, 2014 - Continues

### **Courses**

Microbiology II Lab, Undergraduate, 2019 - 2020

Cell Cloning, Undergraduate, 2019 - 2020

Advanced Recombinant DNA Technology, Postgraduate, 2019 - 2020  
 Genetics II, Undergraduate, 2019 - 2020  
 Immunology, Undergraduate, 2019 - 2020  
 General Biology I, Undergraduate, 2019 - 2020  
 Genetics Lab, Undergraduate, 2019 - 2020  
 Genetics I, Undergraduate, 2019 - 2020  
 Hayvan Hücre Kültürü Teknolojileri, Postgraduate, 2019 - 2020  
 Chromatographic Methods Purification of Natural Substances, Undergraduate, 2019 - 2020

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

- I. **Long term culture promotes changes to growth, gene expression, and metabolism in CHO cells that are independent of production stability**  
 Torres M., BETTS Z., Scholey R., Elvin M., Place S., Hayes A., Dickson A. J.  
 Biotechnology and Bioengineering, vol.120, no.9, pp.2389-2402, 2023 (SCI-Expanded)
- II. **Investigation of the combined cytotoxicity induced by sodium butyrate and a flavonoid quercetin treatment on MCF-7 breast cancer cells**  
 BETTS Z., Deveci Ozkan A., YÜKSEL B., Alimudin J., AYDIN D., AKSOY Ö., Yanar S.  
 Journal of Toxicology and Environmental Health - Part A: Current Issues, vol.86, no.22, pp.833-845, 2023 (SCI-Expanded)
- III. **Anticancer Properties of Eisenia Foetida Proteins in Prostate Cancer Cells In Vitro**  
 Ozkan A. D., Eskiler G. G., SARIHAN M., Kazan N., AKSOY Ö., YÜKSEL B., BETTS Z.  
 International Journal of Peptide Research and Therapeutics, vol.28, no.4, 2022 (SCI-Expanded)
- IV. **Evaluation of the antioxidative and genotoxic effects of sodium butyrate on breast cancer cells**  
 Yüksel B., Deveci Ozkan A., Aydın D., Betts Z.  
 Saudi Journal of Biological Sciences, vol.29, pp.1394-1401, 2022 (SCI-Expanded)
- V. **Protective effect of Eisenia foetida coelomic fluid against oxidative damage in human endothelial cells**  
 Kilciler Y., Ozkan A. D., BETTS Z.  
 TOXICOLOGICAL AND ENVIRONMENTAL CHEMISTRY, vol.104, no.2, pp.307-320, 2022 (SCI-Expanded)
- VI. **In vitro chemo-protective effect of Eisenia foetida coelomic fluid against histone deacetylase inhibitor-induced oxidative toxicity in breast cancer cells**  
 Ozkan A. D., Alimudin J., Kilciler Y., YÜKSEL B., AKSOY Ö., BETTS Z.  
 INTERNATIONAL JOURNAL OF ENVIRONMENTAL HEALTH RESEARCH, vol.33, no.12, pp.1728-1737, 2022 (SCI-Expanded)
- VII. **Metabolic profiling of Chinese hamster ovary cell cultures at different working volumes and agitation speeds using spin tube reactors**  
 Torres M., Elvin M., Betts Z., Place S., Gaffney C., Dickson A.  
 Biotechnology Progress, pp.3099-3118, 2020 (SCI-Expanded)
- VIII. **Improved CHO Cell Line Stability and Recombinant Protein Expression During Long-Term Culture**  
 BETTS Z., Dickson A. J.  
 HETEROLOGOUS PROTEIN PRODUCTION IN CHO CELLS: METHODS AND PROTOCOLS, vol.1603, pp.119-141, 2017 (SCI-Expanded)
- IX. **Ubiquitous Chromatin Opening Elements (UCOE) effect on transgene position and expression stability in CHO cells following methotrexate (MTX) amplification**  
 Betts Z., Dickson A. J.  
 BIOTECHNOLOGY JOURNAL, vol.11, no.4, pp.554-564, 2016 (SCI-Expanded)
- X. **Assessment of UCOE on Recombinant EPO Production and Expression Stability in Amplified Chinese Hamster Ovary Cells**  
 Betts Z., Dickson A. J.

MOLECULAR BIOTECHNOLOGY, vol.57, no.9, pp.846-858, 2015 (SCI-Expanded)

- XI. **Evaluating the interaction between UCOE and DHFR-linked amplification and stability of recombinant protein expression**

Betts Z., Croxford A. S., Dickson A. J.

BIOTECHNOLOGY PROGRESS, vol.31, no.4, pp.1014-1025, 2015 (SCI-Expanded)

- XII. **Seroprevalence of bovine leptospirosis in Kayseri, Turkey and detection of leptospires by polymerase chain reaction**

GÜMÜŞSOY K. S., Ozdemir V., AYDIN F., Asian O., Atabek E., İle T., Dogan H. O., Duman Z., ÖZTÜRK A.

Journal of Animal and Veterinary Advances, vol.8, no.6, pp.1222-1229, 2009 (SCI-Expanded)

## Articles Published in Other Journals

- I. **DETERMINATION OF THE EFFECT OF RUTIN ON EPITHELIAL TO MESENCHYMAL TRANSITION IN PROSTATE CANCER CELLS**

Bal E., ÖZKAN A. D., Betts Z.

Acta Medica Nicomedia, vol.6, no.1, pp.131-136, 2023 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Improved CHO Cell Line Stability and Recombinant Protein Expression During Long-Term Culture**

BETTS Z., DICKSON A. J.

in: Heterologous Protein Production in CHO Cells, Paula Meleady, Editor, Springer, New-York, pp.119-141, 2017

## Refereed Congress / Symposium Publications in Proceedings

- I. **Stability of recombinant protein production in CHO cell lines: A molecular approach**

BETTS Z., Place S., DICKSON A. J.

BioProNET 6th Annual Science Meeting, 3 - 04 June 2019

- II. **Molecular Mechanism of rekombinant protein production instability**

BETTS Z., Ramberg V., Barsoum E., Ingrid L., Smith D., DICKSON A. J., Place S.

26th ESACT Meeting, 5 - 08 May 2019

- III. **Instability in CHO cells: Diagnosis and Cure**

BETTS Z., Place S., DICKSON A. J.

BioProNET 5th Annual Science Meeting, 10 - 11 October 2018

- IV. **Effect of Sodium Butyrate on the Surrounding Chromatin Environment in AMplified CHO cells**

BETTS Z., Alan J D.

International Conference on Biochemistry and Molecular Biology, Paris, France, 22 - 23 April 2015

- V. **Effect of transgene location on productivity and stability of recombinant protein expression**

BETTS Z., Alan J D.

European Federation of Biotechnology, Focus on Frontiers in Industrial Biotechnology, Londrina, Brazil, 17 November 2014 - 19 November 2013

- VI. **Sodyum butiratin amplifiye edilmiş CHO hücrelerinde rekombinant protein ekspresyonuna etkisi**

BETTS Z., Alan J D.

22. Ulusal Biyoloji kongresi, Eskişehir, Turkey, 23 - 27 June 2014

- VII. **Stability of recombinant protein production in amplified CHO cells**

BETTS Z., DICKSON A. J., Croxford A. S.

22nd European Society for Animal Cell Technology Meeting, Viyana, Austria, 15 - 18 May 2011

- VIII. **Stability of recombinant protein production in Chinese Hamster Ovary Cells**

BETTS Z., Croxford A. S., DICKSON A. J.

20th Annual Conference ESACT-UK, UK Society for Cell Culture and Biotechnology, Loughborough, United Kingdom, 6 - 07 January 2010

**IX. Stability of recombinant protein production in amplified Chinese hamster ovary cells**

BETTS Z., DICKSON A. J., Croxford A. S.

9th Conference on Protein Expression in Animal Cells, Jackson Hole, United States Of America, 19 - 23 September 2009

## **Metrics**

Publication: 24

Citation (WoS): 86

Citation (Scopus): 83

H-Index (WoS): 6

H-Index (Scopus): 5

## **Scholarships**

UKRI BBSRC Flexible Talent Mobility Account, Other International Organizations, 2019 - 2019

2219-International postdoctoral fellowship, TUBITAK, 2018 - 2019

Yurt Dışı Doktora Bursu, Ministry of Education, 2008 - 2012

Yurt İçi Yüksek Lisans Bursu, TUBITAK, 2005 - 2007

Lisans Eğitim Bursu, TUBITAK, 2002 - 2005