

CURRICULUM VITAE (CV)

Full name Kerem TERALI

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Nationality Cypriot, Turkish

Date of birth 13 June 1982

Marital status Single

Education/Qualifications

2006–10 Queen Mary, University of London (QMUL) (London, UK): PhD in Biochemistry, thesis: “Characterisation of the yeast Nfs1/Isd11 cysteine desulphurase complex”

2005–06 University of St Andrews (Fife, UK): MRes in Structural Proteomics, theses: (1) “High-throughput production and crystallisation of selected microbial proteins for structural proteomics”; (2) “Production and crystallisation of Aurora kinases and Aurora kinase surrogates for therapeutic purposes”

2001–05 Istanbul Technical University (ITU) (Istanbul, Turkey): BSc in Molecular Biology and Genetics, GPA: 3.58/4.00 (graduated first in the class), thesis: “Promoter exchange for enhanced YFP expression”

1996–99 Turk Maarif Koleji (Nicosia, North Cyprus), GPA: 9.02/10.0 (graduated second in the class), 7 GCE O levels: Biology (A); Human Biology (A); Chemistry (A); Physics (A); Pure Mathematics (B); Turkish (A); Mathematics (B)

1993–96 Bayraktar Turk Maarif Koleji (Nicosia, North Cyprus), GPA: 8.13/10.0

Honours QMUL Research Studentship, 2006–09
BBSRC Studentship, 2005–06

Experience

2021–Present Head of Department and Associate Professor of Medical Biochemistry in the Faculty of Medicine at Girne American University (GAU) (Kyrenia, North Cyprus)

2018–21 Associate Professor of Medical Biochemistry in the Faculty of Medicine at Near East University (NEU) (Nicosia, North Cyprus).

2016–18	Assistant Professor of Medical Biochemistry in the Faculty of Medicine at Near East University (NEU) (Nicosia, North Cyprus).
2015–16	Assistant Professor of Medical Biochemistry in Dr. Fazıl Küçük Faculty of Medicine at Eastern Mediterranean University (EMU) (Famagusta, North Cyprus).
2013–15	Lecturer and Researcher in both the Faculty of Medicine and the Faculty of Arts and Sciences at Near East University (NEU) (Nicosia, North Cyprus).
2011–13	Laboratory Scientific Officer in Turkish Cypriot DNA Laboratory of the Committee on Missing Persons in Cyprus (Nicosia, North Cyprus).

Professional activities

- Head of Medical Biochemistry Department at GAU (2021–Present)
- Coordinator of GAU Medicine Programme Phase III (2021–Present)
- Member of the Board of Biologists Association (2021–Present)
- Internal Auditor in Alzheimer’s Association (2019–Present)
- Treasurer in ITU Alumni Association – TRNC (2019–Present)
- Member of the Board of TRNC Sports Federation for the Disabled (2019–Present)
- Assistant Coordinator of ECFMG Medical School Web Portal (EMSWP) (2019–21)
- Vice Manager of the NEU Graduate School of Health Sciences (2019–20)
- Bioinformatics & Computational Biology Research Group Leader at DESAM Institute (2018–21)
- Member of National Cancer Advisory Board Treatment Subcommittee (2016–Present)
- Assistant Coordinator of NEU Medicine Programme Phase II (2016–21)
- Member of the National Advisory Board of *Cyprus Journal of Medical Sciences* (2016–Present)
- Member of TRNC Ministry of Health Drug Licensing Committee (2016–18)
- Member of EMU Research and Publication Ethics Board Health Subcommittee (2015–16)
- Internal Auditor for the ISO 9001:2008 and ISO 10002:2014 quality management systems (2015–16)
- Member of EMU Curriculum Committee (2015–16)

Membership in professional associations

- Turkish Biochemical Society
- Turkish Microbiological Society – TRNC
- Turkish Accelerator Center International Light Users
- Cyprus Turkish Chamber of Industry Young Professionals

Research areas

- Molecular biology
- Biochemical genetics
- Protein biochemistry
- Molecular enzymology
- Computational biology

Managed projects

- “Design, characterisation and *ex vivo* evaluation of a plasmid DNA hydrogel for the gene therapy of β -thalassaemia” (NEU-BAP; reference no.: SAG-2018-1-009; in progress)
- “Investigation of the relationship between genetic polymorphisms located in the *XmnI-HBG2*, *BCL11A* and *HBS1L-MYB* loci and HbF levels and clinical phenotype in Turkish Cypriot patients with β -thalassaemia” (NEU-BAP; reference no.: SAG-2016-2-034; completed)

Supervised theses

PhD theses

- “Molecular investigation of the synergistic effect of bisphosphonate zoledronic acid and quercetin on glioblastoma multiforme and neuroblastoma cell lines” (Osman YETKİN, to be completed)
- “Anti-quorum sensing activity of high-intensity sweeteners” (Victor MARKUS, 2021)
- “Fabrication of human genomic DNA-encapsulated supermacroporous alginate beads” (Ramona PASANDIDEH, 2020)

MSc theses

- “Novel naphthalene diimides synthesis and characterisation as probable anticancer agents” (Saad Sami Awla AWLA, to be completed)
- “Inhibitory actions of common organic solvents on horse serum butyrylcholinesterase activity” (Umar Ghali MUHAMMAD, 2020)
- “Genotyping of the *BCL11A* rs11886868 T>C (*Mbo*II) and rs766432 A>C polymorphisms and the *HBS1L-MYB* rs9399137 T>C polymorphism in beta-thalassemia patients of Turkish-Cypriot origin” (Kefas Konyan JAMES, 2018)
- “The inhibitory activity of the pesticide abamectin against the enzyme butyrylcholinesterase purified from horse serum: kinetic and docking studies” (Qëndresa HOTI, 2017)
- “The effect of amitriptyline on equine serum butyrylcholinesterase: kinetic studies and docking calculations” (Sani Muhammad UZAIRU, 2017)

Laboratory skills

- Restriction-based and restriction-free (TA and recombination-based) cloning into plasmid vectors; heterologous gene expression in prokaryotic systems
- Polymerase chain reaction (PCR)-based technologies; site-directed mutagenesis; dye terminator cycle sequencing of DNA; autosomal/gonosomal short tandem repeat (STR) analysis
- Cellulose acetate electrophoresis of haemoglobin; agarose gel electrophoresis of DNA & RNA; capillary electrophoresis of DNA; SDS-polyacrylamide gel electrophoresis (SDS-PAGE) of proteins; isoelectric focusing (IEF) gel electrophoresis of proteins; two-dimensional (2D) gel electrophoresis of proteins; Western blotting
- Ion-exchange chromatography of proteins; gel filtration chromatography of proteins; affinity chromatography of proteins
- UV-visible absorbance spectrophotometry & spectrofluorimetry; far- and near-UV circular dichroism (CD) spectroscopy of proteins
- Dynamic light scattering (DLS)
- Sedimentation equilibrium analytical ultracentrifugation (SE-AUC)
- Mass spectrometry (MS) for protein characterisation (peptide-mass fingerprinting by MALDI-TOF MS & peptide sequencing by MS/MS)
- Isothermal titration calorimetry (ITC) for protein-ligand interactions

- Nuclear magnetic resonance (NMR) spectroscopy of proteins ('through-bond' homo- & heteronuclear 2D NMR); electron paramagnetic resonance (EPR) spectroscopy of proteins
- Manual and automated protein crystallisation (hanging- and sitting-drop vapour-diffusion methods) & X-ray crystallography of proteins
- Biomolecular modelling; ligand- and structure-based virtual screening; molecular docking

Publications

Peer-reviewed journal articles

- Diker, S., Gelener, P., Teralı, K., Ergoren, M.C., Tunca, C., Başak, A.N. & Tan, E. (2021). A combined clinical and computational approach to understand the SOD1^{A4T}-mediated pathogenesis of rapidly progressive familial amyotrophic lateral sclerosis. *Acta Neurologica Belgica*, DOI: 10.1007/s13760-020-01588-9
- Shukur, K., Fallah, A., Teralı, K., Kalkan, R., Gazi, M. & Gülcan, H.O. (2021). 3-Hydroxy-7,8,9,10-tetrahydro-6H-benzo[c]chromen-6-one and 3-hydroxy-6H-benzo[c]chromen-6-one act as ON-OFF selective fluorescent sensors for iron(III) under *in vitro* and *ex vivo* conditions. *Turkish Journal of Chemistry*, vol. 45, no. 3, pp. 858–867.
- Pasandideh, R., Gazi, M., Teralı, K. & Oladipo, A.A. (2021). Fabrication of human genomic DNA encapsulated supermacroporous alginate beads. *Materials Technology*, vol. 36, no. 6, pp. 331–338.
- Markus, V., Golberg, K., Teralı, K., Ozer, N., Kramarsky-Winter, E., Marks, R.S. & Kushmaro, A. (2021). Assessing the molecular targets and mode of action of furanone C-30 on *Pseudomonas aeruginosa* quorum sensing. *Molecules*, vol. 26, no. 6, p. 1620.
- Doğan, M., Eröz, R., Teralı, K., Gezdirici, A. & Bolu, S. (2021). Clinical, radiological and computational studies on two novel *GNPTG* variants causing mucopolipidosis III gamma phenotypes with varying severity. *Molecular Biology Reports*, vol. 48, pp. 1465–1474.
- Gezdirici, A., Teralı, K., Gülec, E.Y., Bornaun, H., Dogan, M. & Eröz, R. (2021). An integrated clinical and molecular study of a cohort of Turkish patients with Marfan syndrome harboring known and novel *FBNI* variants. *Journal of Human Genetics*, vol. 66, pp. 647–657.
- Dogan, M., Teralı, K., Eroz, R., Demirci, H. & Kocabay, K. (2021). Clinical and molecular findings in a Turkish family with an ultra-rare condition, ELP2-related neurodevelopmental disorder. *Molecular Biology Reports*, vol. 48, pp. 701–708
- Markus, V., Share, O., Teralı, K., Ozer, N., Marks, R.S., Kushmaro, A. & Golberg, K. (2020). Anti-quorum sensing activity of stevia extract, stevioside, rebaudioside A and their aglycon steviol. *Molecules*, vol. 25, no. 22, p. 5480.
- Teralı, K., Baddal, B. & Gülcan, H.O. (2020). Prioritizing potential ACE2 inhibitors in the COVID-19 pandemic: insights from a molecular mechanics-assisted structure-based virtual screening experiment. *Journal of Molecular Graphics and Modelling*, vol. 100, p. 107697.
- Gelener, P., Severino, M., Diker, S., Teralı, K., Tuncel, G., Tuzlali, H., Manara, E., Paolacci, S., Bertelli, M. & Ergoren, M.C. (2020). Adult-onset glutaric aciduria type I: rare presentation of a treatable disorder. *Neurogenetics*, vol. 21, no. 3, pp. 179–186.
- Dalmizrak, O., Teralı, K., Asuquo, E.B., Ogus, I.H. & Ozer, N. (2019). The relevance of glutathione reductase inhibition by fluoxetine to human health and disease: insights derived from a combined kinetic and docking study. *Protein Journal*, vol. 38, no. 5, pp. 515–524.
- Alegbe, E.O., Teralı, K., Olofinisan, K.A., Surgun, S., Ogbaga, C. & Ajiboye, T.O. (2019). Antidiabetic activity-guided isolation of gallic and protocatechuic acids from *Hibiscus sabdariffa* calyxes. *Journal of Food Biochemistry*, vol. 43, no. 7, p. e12927.
- Teralı, K. & Ergören, M.Ç. (2019). The contribution of *NOS3* variants to coronary artery disease: a combined genetic epidemiology and computational biochemistry perspective. *International Journal of Biological Macromolecules*, vol. 123, pp. 494–499.
- Dalmizrak, O., Teralı, K., Yetkin, O., Ogus, I.H. & Ozer, N. (2019). Computational and experimental studies on the interaction between butyrylcholinesterase and fluoxetine: implications in health and disease. *Xenobiotica*, vol. 49, no. 7, pp. 803–810.

- Terali, K., Dalmizrak, O., Uzairu, S.M. & Ozer, N. (2019). New insights into the interaction between mammalian butyrylcholinesterase and amitriptyline: a combined experimental and computational approach. *Turkish Journal of Biochemistry*, vol. 44, no. 1, pp. 55–61.
- Ergoren, M.C., Turkgenç, B., Terali, K., Rodoplu, O., Verstraeten, A., Van Laer, L., Mocan, G., Loeys, B. Tetik, O. & Temel, S.G. (2019). Identification and characterization of a novel *FBNI* gene variant in an extended family with variable clinical phenotype of Marfan syndrome. *Connective Tissue Research*, vol. 60, no. 2, pp. 146–154.
- Terali, K., Dalmizrak, O., Hoti, Q. & Ozer, N. (2018). Evaluation of the inhibitory effect of abamectin on mammalian butyrylcholinesterase: enzyme kinetic and molecular docking studies. *Journal of Environmental Science and Health, Part B*, vol. 53, no. 11, pp. 713–718.
- Ergören, M.Ç. & Terali, K. (2018). Assessment of the association between three perplexing *PPARA* gene polymorphisms and risk of coronary artery disease in a population of Turkish Cypriot women. *Cyprus Journal of Medical Sciences*, vol. 3, no. 2, pp. 75–80.
- Ibitoye, O.B., Olofinisan, K., Terali, K., Ghali, U.M. & Ajiboye, T.O. (2018). Bioactivity-guided isolation of antidiabetic principles from the methanolic leaf extract of *Bryophyllum pinnatum*. *Journal of Food Biochemistry*, vol. 42, no. 5, p. e12627.
- Terali, K. (2018). An evaluation of neonicotinoids' potential to inhibit human cholinesterases: protein–ligand docking and interaction profiling studies. *Journal of Molecular Graphics and Modelling*, vol. 84, pp. 54–63.
- Markus, V., Terali, K., Dalmizrak, O. & Ozer, N. (2018). Assessment of the inhibitory activity of the pyrethroid pesticide deltamethrin against human placental glutathione transferase P1-1: a combined kinetic and docking study. *Environmental Toxicology and Pharmacology*, vol. 61, pp. 18–23.
- Dalmizrak, O., Terali, K., Abdullah, R.K. & Ozer, N. (2018). Mechanistic and structural insights into the *in vitro* inhibitory action of hypericin on glutathione reductase purified from baker's yeast. *Journal of Biochemical and Molecular Toxicology*, vol. 32, no. 5, p. e22051.
- Gurkan, C., Sevay, H., Demirdov, D.K., Hossoz, S., Ceker, D., Terali, K. & Erol, A.S. (2017). Turkish Cypriot paternal lineages bear an autochthonous character and closest resemblance to those from neighbouring Near Eastern populations. *Annals of Human Biology*, vol. 44, no. 2, pp. 164–174.
- Terali, K. & Yilmazer, A. (2016). New surprises from an old favourite: the emergence of telomerase as a key player in the regulation of cancer stemness. *Biochimie*, vol. 121, pp. 170–178.
- Terali, K., Zorlu, T., Bulbul, O. & Gurkan, C. (2014). Population genetics of 17 Y-STR markers in Turkish Cypriots from Cyprus. *Forensic Science International: Genetics*, vol. 10, pp. e1–e3.
- Terali, K., Beavil, R.L., Pickersgill, R.W. & van der Giezen, M. (2013). The effect of the adaptor protein Isd11 on the quaternary structure of the eukaryotic cysteine desulphurase Nfs1. *Biochemical and Biophysical Research Communications*, vol. 440, no. 2, pp. 235–240.

Book chapters

- Terali, K., Kalkan, R. & Aykac, A. (2020). Alzheimer Hastalığı: Temel Mekanizmalardan Hayvan Modellerine, Sağlık Bilimlerinde Teori ve Araştırmalar – Cilt 1, Prof. Dr. Cem Evereklioğlu & Doç. Dr. Metin Ünlü (Eds.), Gece Kitaplığı.
- Terali, K. & Yilmazer, A. (2016). On the far side of telomeres: the many roles of telomerase in the acquisition and retention of cancer stemness, *Telomere*, Dr. Marcelo L. Larramendy (Ed.), IntechOpen.

Abstracts/Proceedings

- Shukur, K.T.J., Gulcan, H.O., Gazi, M., *et al.* (2020). Evaluating the applicability of iron(III)-sensing, fluorescent urolithin derivatives to living-cell imaging in neurodegenerative diseases. *Turkish Journal of Biochemistry*, vol. 45, supp. S2, p. 77.

- Yetkin, O., Kalkan, R., Mutlu Altundag, E., *et al.* (2020). Investigation of the synergistic anti-cancer effect of a combination of zoledronate and quercetin on glioblastoma. *Turkish Journal of Biochemistry*, vol. 45, supp. S2, p. 52.
- Abu Zaid, M., Dalmizrak, O., Terali, K., *et al.* (2020). Assessing the inhibitory effects of selected phytohormones on human placental glutathione S-transferase. *Turkish Journal of Biochemistry*, vol. 45, supp. S2, p. 40.
- Terali, K., Doğan, M., Gezdirici, A., *et al.* (2020). Biomolecular modeling in medical genetics: a case-based approach to the analysis of non-silent mutations in disease-associated genes. *Gazi Medical Journal*, vol. 31, no. 3, p. 6.
- Temel, S.G., Turkgenç, B., Terali, K., *et al.* (2019). Identification of a novel genetic cause of familial nonobstructive azoospermia. *European Journal of Human Genetics*, vol. 27, supp. 2, pp. 1190–1191.
- Ghali, U.M., Terali, K., Dalmizrak, Ö., *et al.* (2019). Rethinking common solvents in butyrylcholinesterase activity assays. *Turkish Journal of Biochemistry*, vol. 44, supp. S3, p. 86.
- Dalmizrak, Ö., Terali, K., Ögüş, H., *et al.* (2019). *In silico* analysis of missense mutations in the gene for human glutathione reductase. *Turkish Journal of Biochemistry*, vol. 44, supp. S3, p. 73.
- Terali, K., Dalmizrak, Ö., Ögüş, *et al.* (2019). *In silico* prediction of antidepressant-binding sites on human glutathione reductase. *Turkish Journal of Biochemistry*, vol. 49, supp. S3, p. 60.
- Terali, K., Güran, M. & Perez-Sanchez, H. (2019). A comprehensive computational framework for repurposing FDA-approved drugs to interfere with *Pseudomonas aeruginosa* quorum sensing. *Journal of Biotechnology*, vol. 305, supp. S, p. S22.
- Temel, S.G., Turkgenç, B., Terali, K., *et al.* (2019). Identification of a novel genetic cause of familial nonobstructive azospermia. *European Journal of Human Genetics*, vol. 27, supp. 2, pp. 1190–1191.
- Gelener, P., Diker, S., Ergoren, M.C., *et al.* (2019). A combined clinical and computational approach to understand the SOD1^{A4T}-mediated pathogenesis of rapidly progressive familial amyotrophic lateral sclerosis. *European Journal of Neurology*, vol. 26, supp. 1, p. 827.
- Terali, K., Diker, S. & Gelener-Arsal, P. (2019). Predicting the molecular phenotype of familial amyotrophic lateral sclerosis: computational studies of the rare SOD1 A4T mutant protein. *Erciyes Medical Journal*, vol. 41, supp. 1, p. 36.
- Fahrioglu, U. & Terali, K. (2019). The role of a rare variant in Canavan disease: an *in silico* follow-up. *Erciyes Medical Journal*, vol. 41, supp. 1, p. 30.
- Terali, K. & Temel, Ş.G. (2019). On the contribution of computational biology to the functional exploration of missense mutants: a case-based overview. *Gazi Medical Journal*, vol. 30, supp. 1, p. 12.
- Terali, K., Temel, Ş.G. & Eren, E. (2018). Identification of the FGFR3^{G380R} mutant as a likely cause of psychomotor delay in an achondroplastic child: a combined clinical exome sequencing and biomolecular modeling approach. *MDPI Proceedings*, vol. 2, no. 25, p. 1551.
- Ergoren, M.C., Terali, K., Manara, E., *et al.* (2018). Identification of bi-allelic *POLR3A* mutations as a likely cause of neonatal progeroid syndrome. *Erciyes Medical Journal*, vol. 40, supp. 1, p. S54.
- Betmezoglu, M., Terali, K., Manara, E., *et al.* (2018). Characterization and *in silico* modelling of bi-allelic *POLR3A* mutations as a cause of Wiedemann–Rautenstrauch syndrome. *FEBS Open Bio*, vol. 8, supp. 1, pp. 143–144.
- Sah, H., Sanlidag, B., Manara, E., *et al.* (2018). Phenotype does not necessarily follow genotype: identification of an incompletely penetrant novel *POLR1D* variant as a likely cause of Treacher–Collins syndrome. *FEBS Open Bio*, vol. 8, supp. 1, pp. 143–144.
- Terali, K., Dalmizrak, O., Oğus, H., *et al.* (2018). *In silico* prediction of antidepressant-binding sites on human placental glutathione S-transferase pi. *FEBS Open Bio*, vol. 8, supp. 1, p. 352.

- Dalmizrak, O., Terali, K., Ogus, H., *et al.* (2018). Prediction of the binding modes of antidepressants in the active-site gorge of acetylcholinesterase or butyrylcholinesterase: a protein-ligand docking and interaction profiling study. *FEBS Open Bio*, vol. 8, supp. 1, pp. 453–454.
- Terali, K., Hoti, Q., Dalmizrak, O., *et al.* (2017). The effect of the biological pesticide abamectin on mammalian butyrylcholinesterase: experimental and computational studies. *Turkish Journal of Biochemistry*, vol. 42, supp. 1, p. 32.
- Terali, K., Uzairu, S.M., Dalmizrak, Ö., *et al.* (2017). The effect of the tricyclic antidepressant amitriptyline on mammalian butyrylcholinesterase: *in vitro* and *in silico* studies. *Turkish Journal of Biochemistry*, vol. 42, supp. 1, p. 93.
- Markus, V., Dalmizrak, Ö., Terali, K., *et al.* (2017). The effect of deltamethrin on placental glutathione S-transferase P1-1: experimental and computational studies. *Turkish Journal of Biochemistry*, vol. 42, supp. 1, p. 95.
- Terali, K., Ergoren, M.C. & Akdeniz, E. (2017). Genetic modifiers of HbF production and effects of elevated HbF levels on clinical phenotype: the case of Turkish Cypriot patients with beta-thalassemia. *Journal of Biotechnology*, vol. 256, supp. S, pp. S77–S78.
- Terali, K., Ozkan, O. C., Cetin, O., *et al.* (2016). The contribution of elevated foetal haemoglobin levels to a relatively mild clinical phenotype in Turkish Cypriot patients with beta-thalassaemia. *FEBS Journal*, vol. 283, supp. 1, p. 103.
- Terali, K., Zorlu, T., Bulbul, O., *et al.* (2014). Population genetic data of 17 Y-STR markers in Turkish Cypriots from Cyprus. *Proceedings of the American Academy of Forensic Sciences*, vol. 20, pp. 220–221.

Academic awards	NEU 2019 Scientific Publication Achievement Award Best Oral Presentation, First Place (Erciyes Medical Genetics Days 2019) Best Oral Presentation, Second Place (2 nd International Cell Death Research Congress) NEU 2018 Scientific Publication Achievement Award
Languages	Native Turkish speaker with an excellent knowledge of English, a basic knowledge of German and French, and a poor knowledge of Greek
EAAAs	Photography, karaoke, cinema/movies, surfing the Web, reading, bioethics, mythology, cycling, travelling, socialising with friends, fine dining, and fashion shopping