



Mehmet Candas

PhD, MS

Mehmet Candas is associated with The University of Texas at Dallas since 1997. He teaches courses in Biochemistry, Cell and Molecular Biology, Biotechnology, Proteomics, Cellular Microbiology and Human Physiology. He has served as Research Manager at the Center for Biotechnology and Bioinformatics. At the Center, he coordinated research activities involving insect receptors that determine the insecticidal action of Bt toxins. He also helped establish a university-based start-up company, Biological Targets Inc., focusing on agricultural and environmental biotechnology. As a scientific co-founder and internal consultant, he served as the Chief Technology Officer of the company, and provided strategic and operational leadership for the R&D projects. He implemented a technology platform for gene discovery and product development integrating functional genomics, bioinformatics and proteomics applications with laboratory robotics. The technology has enabled selection of gene-specific primers through processing of multi-species genetic sequences and facilitated high-throughput cloning of expression-ready cDNA libraries. The platform has been an efficient and reliable tool for generating cell-based functional assays utilized in drug and insecticide chemistry screening.

Prior to his involvement in the University Texas at Dallas and Biological Targets, Dr. Candas was a scientist at Cytoclonal Pharmaceuticals. At this position, he worked on developing live bacteria vaccine delivery technologies and recombinant protein expression vectors for immune stimulation and treatment of infectious diseases and cancer. Before coming to the US, he was at Ankara University Medical School (Turkey) where he instructed classes for Medical Biology and Clinical Genetics. Prior that, he worked at Duzen Laboratories, an established company for medical technology and molecular diagnostics services specializing in clinical biochemistry, microbiology and medical imaging.

Dr. Candas earned his PhD degree from Southern Methodist University (Dallas, Texas) and MS and BS degrees from Middle East Technical University (Ankara, Turkey) with specialties in molecular genetics, biochemistry and microbiology. In his doctoral dissertation, he studied antioxidant defenses and the aging process. He characterized glutathione reductase gene in *Drosophila melanogaster*. His work has set the stage for overexpression of the gene in transgenic *Drosophila* and understanding its role in survival extension under oxidative stress. His Master's thesis covered studies on RNA modifications in cancer. He studied differences in transfer RNA populations between normal tissues and tumors in human brain cancers. His postdoctoral work involved studies in bacterial metabolism and virulence regulation. He investigated biofilm production and propionate metabolism in *Pseudomonas aeruginosa*, and identified molecular targets suitable for development of new anti-infectives. His current research interests focus on intracellular signaling pathways associated with cell adhesion receptors, and bacteria and insect systems as paradigms for microbe-host interactions. He studies structural and functional aspects of adhesion receptors and cell death signaling cascades with the goal of understanding regulatory pathways involved in development, and determining biochemical mechanisms of microbial toxins, drugs and insecticide action. His studies suggest broad implications for the involvement of gut epithelium in physiological responses, and provide new insight into the genetic basis of cellular resistance to stress.

Blending experiences in research, education and consulting in industrial and academic settings, Dr. Candas completed a wide spectrum of projects spanning from basic biomedical research with studies in aging, cancer and infectious diseases, to biotechnology product development involving drug discovery, recombinant DNA vaccines, insecticides, bioremediation and soil improvement. His accomplishments have been described in several patents and journal articles, and he has been a featured speaker at scientific meetings and industry trade conferences.