

## Application of the ALA-SCAN method in drug discovery and pharmacodynamics

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In drug discovery and pharmacodynamics, alanine scanning (ALA-SCAN) is a method used to determine the contribution of an amino acid residue (other than alanine or glycine) to the stability or function of a given protein or peptide. In addition, point-mutations to alanine (or glycine) allows researchers to determine essential/non-essential interactions between the peptide/non-peptide ligands and their receptors, which provide crucial information in drug discovery. In vivo applications of the ALA-SCAN technique involves site-directed mutagenesis or random mutations constituted by PCR library, which may be costly. On the other hand, a more cost-effective method of ALA-SCAN has

been computationally utilized in theoretical chemistry. Here, specific examples for the in-silico version of the ALA-SCAN technique applied in our computer-assisted drug development laboratory will be given.

### Biography

Cenk A Andac works as an Assistant Professor in the School of Pharmacy at Istinye University-Istanbul, Turkey. He has completed his Master's degree and PhD work as the Faculty of Pharmacy at the University of Wisconsin-Madison, WI, USA (UW-Pharmacy, USA). He had been involved in teaching Drug Actions & Delivery, and Pharmaceutical Biochemistry & Biotechnology courses at UW-Pharmacy, USA for four and half years. He has also taught Medical Pharmacology courses as an assistant professor for three years in Medical school in Turkey. His current researches are development of novel anticancer agents inhibiting G-coupled receptors in cancer stem cells; development of novel aminoglycoside antibiotics; determination of 3D structures of biological and synthetic compounds by NMR techniques; computer-assisted drug development by AMBER, CHARMM and Quantum mechanics; Pharmacokinetics and Pharmacodynamics properties of drug-receptor interactions. He currently holds a patent for a potentially active anti-cancer agent against breast cancer.

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