

Arzu Onay-Besikci, PhD

Ankara University • Faculty of Pharmacy • Dept. Pharmacology • 90 312 203 3133 •
abesikci@ankara.edu.tr

EDUCATION

- Ph.D. in Pharmacology, 2003, University of Alberta, Edmonton, Alberta, Canada
 - M.S. in Pharmacology, 1997, Ankara University, Faculty of Pharmacy, Ankara, Turkey
 - B.S. in Pharmacy, 1994, Hacettepe University, Ankara, Turkey
-

PROFESSIONAL EXPERIENCE

Professor

Ankara University, Faculty of Pharmacy,
Department of Pharmacology

2014 -

Associate Professor

Ankara University, Faculty of Pharmacy,
Department of Pharmacology

2008 – 2014

Visiting Scientist

Cardiovascular Research Group, University of Alberta

January- February 2012

Postdoctoral Research

Division of Cardiovascular Disease,
University of Alabama at Birmingham

August-September 2006

Postdoctoral Research

Cardiovascular Research Group, University of Alberta

June-September 2005

Research Assistant

Ankara University, Faculty of Pharmacy,
Department of Pharmacology

1996 - 2008

PUBLICATIONS

I. INTERNATIONAL JOURNAL ARTICLES

1. Dinçer UD, **Onay A**, Arı N, Ozçelikay AT, Altan VM. The effects of diabetes on beta-adrenoceptor mediated responsiveness of human and rat atria. *Diabetes Res Clin Pract.* 40(2):113-122, 1998.
2. **Onay-Besikci A**, Campbell FM, Hopkins TA, Dyck JR, Lopaschuk GD. Relative importance of malonyl CoA and carnitine in maturation of fatty acid oxidation in newborn rabbit heart. *Am J Physiol Heart Circ Physiol.* 284(1):H283-H289, 2003.
3. Atkinson LL, Kozak R, Kelly SE, **Onay-Besikci A**, Russell JC, Lopaschuk GD. Potential mechanisms and consequences of cardiac triacylglycerol accumulation in insulin-resistant rats. *Am J Physiol Endocrinol Metab.* 284(5):E923-E930, 2003.
4. **Onay-Besikci A**, Altarejos JY, Lopaschuk GD, gAd-globular head domain of adiponectin increases fatty acid oxidation in newborn rabbit hearts. *J Biol Chem,* 279(43):44320-44326, 2004.
5. **Onay-Besikci A**. Impact of lactate in the perfusate on function and metabolic parameters of isolated working rat heart. *Mol Cell Biochem.* 296 (1-2):121-127, 2007.
6. **Onay-Besikci A**. Regulation of cardiac energy metabolism in newborn. *Mol Cell Biochem.* 287 (1-2):1-11, 2006.
7. **Onay-Besikci A**, Sambandam N. Malonyl CoA control of fatty acid oxidation in the newborn heart in response to increased fatty acid supply. *Can J Physiol Pharmacol.* 84: 1215-1222, 2006.
8. **Onay-Besikci A**, Guner S, Arioglu E, Ozakca I, Ozcelikay AT, Altan VM. The effects of chronic trimetazidine treatment on mechanical function and fatty acid oxidation in diabetic rat hearts. *Can J Physiol Pharmacol.* 85:527-535, 2007.
9. **Onay-Besikci A**, Wagg C, Lopaschuk TP, Keung W, Lopaschuk GD. α -Lipoic Acid Increases Cardiac Glucose Oxidation Independent of AMP-Activated Protein Kinase in Isolated Working Rat Hearts. *Basic Res Cardiol.* 102:436-444, 2007.

10. **Onay-Besikci A**, Ozkan SA. Trimetazidine Revisited: A Comprehensive Review of the Pharmacological Effects and Analytical Techniques for the Determination of Trimetazidine. *Cardiovasc. Ther.* 26:147-165, 2008
11. Yaras N, Sariahmetoglu M, Bilginoglu A, Aydemir-Koksoy A, **Onay-Besikci A**, Turan B, Schulz R. Protective action of doxycycline against diabetic cardiomyopathy in rats. *Br. J. Pharmacol.* 155: 1174-1184, 2008
12. Laczy B, Fülöp N, **Onay-Besikci A**, Des Rosiers C, Chatham JC. Acute regulation of cardiac metabolism by the hexosamine biosynthesis pathway and protein O-GlcNAcylation. *PLoS One.* 6(4):e18417, 2011.
13. **Onay-Besikci A**, Suzmecelik E, Ozcelikay AT. Carvedilol suppresses fatty acid oxidation and stimulates glycolysis in C2C12 cells. *Can J Physiol Pharmacol.* 90(8): 1087-1193, 2012.
14. Dincer S, Cetin KT, **Onay-Besikci A**, Olgen S. Synthesis, biological evaluation and docking studies of new pyrrolo[2,3-d] pyrimidine derivatives as Src family-selective tyrosine kinase inhibitors. *J Enzyme Inhib Med Chem.* 28(5):1080-1187, 2013.
15. Sezgin-Bayindir Z, **Onay-Besikci A**, Vural N, Yuksel N. Niosomes encapsulating paclitaxel for oral bioavailability enhancement: preparation, characterization, pharmacokinetics and biodistribution. *J Microencapsul.* 30(8):796-804, 2013.
16. Kilic-Kurt Z, **Onay-Besikci A**, Olgen S. Synthesis, Biological and Computational Evaluation of Novel Oxindole Derivatives as Inhibitors of Src Family Kinases, *LDDD*, 10 (8), 713-718, 2013.
17. Badilli U, Sengel-Turk CT, **Onay-Besikci A**, Tarimci N. Development of Etofenamate-Loaded Semisolid SIn Dispersions and Evaluation Of Anti-Inflammatory Activity for Topical Application. *Curr Drug Deliv.* 12(2):200-9, 2014.
18. Fillmore N, Huqi A, Jaswal JS, Mori J, Paulin R, Haromy A, **Onay-Besikci A**, Ionescu L, Thébaud B, Michelakis E, Lopaschuk GD. Effect of Fatty Acids on Human Bone Marrow Mesenchymal Stem Cell Energy Metabolism and Survival. *PLoS One.* 10(3): e0120257, 2015.
19. Lam VH, Zhang L, Huqi A, Fukushima A, Tanner BA, **Onay-Besikci A**, Keung W, Kantor PF, Jaswal JS, Rebeyka IM, Lopaschuk GD. Activating PPAR α prevents post-ischemic contractile dysfunction in hypertrophied neonatal hearts. *Circ Res.* 117(1):41-51, 2015.

20. Sezgin Bayındır Z, **Besikci A**, Yüksel N. Paclitaxel-loaded niosomes for intravenous administration: pharmacokinetics and tissue distribution in rats. *Turk J Med Sci*, 45 (6): 1403-1412, 2015.
21. Badilli U, **Onay-Besikci A**, Amasya G, Sen T, Tarimci N. Calcipotriol–captisol inclusion complex and corticosteroid in a novel fixed dose combination: evaluation on human epidermal keratinocyte cells. *J Incl Phenom Macrocycl Chem*, 83:363–368, 2015.
22. Amasya G, Sandri G, **Onay-Besikci A**, Badilli U, Caramella C, Bonferoni MC, Tarimci N. Skin Localization of Lipid Nanoparticles (SLN/NLC): Focusing the Influence of Formulation Parameters. *Curr Drug Deliv*, 13(7):1100-1110, 2016.
23. Tort S, Acartürk F, **Besikci A**. Evaluation of three-layered doxycycline-collagen loaded nanofiber wound dressing. *Int J Pharm*, 529(1-2):642-653, 2017.
24. Demirel S, Ayhan Kılıçgil G, Kara Z, Güven B, **Onay-Besikci A**. Synthesis and Pharmacological Evaluation of Some Benzimidazole Acetohydrazide Derivatives as EGFR Inhibitors, *Turk J Pharm Sci*, 14 (3), 285-289, 2017.
25. Aydın E, Badilli U, **Onay-Besikci A**, Tarimci N. Thermosensitive in situ gel formulation containing plga nanoparticles of flurbiprofen for ocular delivery. *Acta Poloniae Pharmaceutica - Drug Research*, 75(1): 141-153, 2018.
26. Amasya G, Aksu B, Badilli U, **Onay-Besikci A**, Tarimci N. QbD guided early pharmaceutical development study: Production of lipid nanoparticles by high pressure homogenization for skin cancer treatment. *Int J Pharm*, 563:110-121, 2019.
27. Celik İ, Ayhan-Kılıçgil G, Guven B, Kara Z, Gurkan-Alp AS, Karayel A, **Onay-Besikci A**. Design, synthesis and docking studies of benzimidazole derivatives as potential EGFR inhibitors. *Eur J Med Chem*, 173:240-249, 2019.

II. BOOK CHAPTERS

1. Lopaschuk GD and **Onay-Besikci A**. Regulation of Fatty Acid Oxidation by Malonyl CoA in Cardiac Muscle Tissue, *Advances in Molecular and Cell Biology*, ed. G. van der Vusse, Vol. 33, 223-241, Elsevier, Amsterdam, 2003.
2. **Onay-Besikci A** and Özkan SA. Drugs Versus Chemicals, *Electroanalytical Methods in Pharmaceutical Analysis and Their Validation*, ed. Sibel A. Özkan, HNB Publishing, New York, 2012.
3. **Arzu Onay-Besikci**. Substrate Metabolism in the Diabetic Heart, *Diabetic Cardiomyopathy*, ed. Belma Turan and Naranjan S. Dhalla, Springer, New York, 2014.

III. POSTER PRESENTATIONS

1. Eynli AE, Onay A, Altan VM. L-Arjininin stimüle ettiği endotel-bağımsız gevşemelere NO sentaz inhibitörlerinin etkisi. XIII. Ulusal Farmakoloji Kongresi, 4-8 Kasım 1996 – Tekirova, Antalya.
2. Dinçer ÜD, Özaydın FN, Onay A, Arı (Yıldızoğlu) N, Altan VM. Diabetin β -adrenoseptor aracılı atrial yanıtverirlik üzerindeki etkileri. XIII. Ulusal Farmakoloji Kongresi, 4-8 Kasım 1996 – Tekirova, Antalya.
3. Onay A, İrat AM, Altan VM. Hipergliseminin endotel-bağımlı ve endotel-bağımsız vasküler gevşeme yanıtları üzerine etkileri. XIV. Ulusal Farmakoloji Kongresi, 2-7 Kasım 1997 – Tekirova, Antalya.
4. Campbell FM, Onay-Besikci A, Lopaschuk GD. Maturation of fatty acid oxidation in newborn heart. Canadian Cardiovascular Congress, October 29- November 1, 2000 – Vancouver, British Columbia, Canada.
5. Onay-Besikci A, Campbell FM, Lopaschuk GD. Control of the fatty acid transport into the mitochondria of newborn rabbit hearts. 8th Annual Western Perinatal Research Meeting, February 18-20, 2000 – Banff, Alberta, Canada.
6. Campbell FM, Onay-Besikci A, Lopaschuk GD. A drop in cardiac malonyl CoA levels is the key determinant in the rapid maturation of fatty acid oxidation in newborn heart. 9th Annual Western Perinatal Research Meeting, February 16-18, 2001 – Banff, Alberta, Canada.

7. Onay-Besikci A, Lopaschuk GD. gAd-globular head domain of adiponectin increases fatty acid oxidation in newborn rabbit hearts. XXVth Annual Meeting of the International Society for Heart Research, June 28- July 1, 2003 – Mystic, Connecticut, USA. (Published in JOURNAL OF MOLECULAR AND CELLULAR CARDIOLOGY 35 (6): P12 JUN 2003)
8. Onay-Besikci A, Guner S, Arioglu E, Ozakca I, Ozcelikay AT, Altan VM. The Effects of chronic trimetazidine treatment on mechanical parameters and fatty acid oxidation in 14-week diabetic rat hearts. 4th Annual Meeting of the Society for Heart and Vascular Metabolism: "CARDIAC ENERGY METABOLISM IN HEART FAILURE: FROM CONCEPTS TO THERAPIES", September 6 – 9, 2006 - Semiahmoo, Washington, USA. (Published in CARDIOVASCULAR DRUGS AND THERAPY 20 (6): 417-417, 2006)
9. Guner S, Onay-Besikci A, Arioglu E, Ozakca I, Ozcelikay AT, Altan VM.
Substrate metabolism and function of fructose-fed rat heart. 4th Annual Meeting of the Society for Heart and Vascular Metabolism: "CARDIAC ENERGY METABOLISM IN HEART FAILURE: FROM CONCEPTS TO THERAPIES", September 6 – 9, 2006 - Semiahmoo, Washington, USA. (Published in CARDIOVASCULAR DRUGS AND THERAPY 20 (6): 408-408, 2006)
10. Onay-Besikci A, Fülöp N, Marchase RB, Chatham JC. Regulation of cardiac substrate utilization by protein O-glycosylation. 5th Annual Meeting of the Society for Heart and Vascular Metabolism: "NEW DEVELOPMENTS IN CARDIAC LIPID METABOLISM: FROM SUBSTRATE TO SIGNALING", June 16-18, 2007 - Maastricht, The Netherlands.
11. Sariahmetoglu M, Koksoy A, Bilginoglu A, Onay-Besikci A, Turan B, Schulz R. Inhibition of matrix metalloproteinases reduces streptozotocin-induced diabetic cardiomyopathy. XIXth World Congress of the International Society for Heart Research, June 22-26 2007 – Bologna, Italy. (Published in JOURNAL OF MOLECULAR AND CELLULAR CARDIOLOGY 42: S169-S170 Suppl. 1, 2007)
12. Fülöp N, Onay-Besikci A, Marchase RB, Chatham JC. Regulation of cardiac substrate utilization by protein O-glycosylation. XIXth World Congress of the International Society for Heart Research, June 22-26 2007 – Bologna, Italy. (Published in JOURNAL OF MOLECULAR AND CELLULAR CARDIOLOGY 42: S64-S64 Suppl. 1, 2007)

13. Lam VH, Huqi A, Tanner BA, Onay-Besikci A, Keung W, Jaswal JS, Rebeyka IM, Lopaschuk GD. Activating PPAR- α prevents post-ischemic contractile dysfunction in hypertrophied neonatal hearts. ISHR, North American Section, May 28-31, 2012 - Banff, Alberta, Canada.
14. Onay-Besikci A, Tuğ T. Antiseptik bazlı çözeltilerin insan keratinosit hücre dizisi (HaCaT) proliferasyonuna etkilerinin karşılaştırılması. KLİMİK 2013 XVI, 13-17 Mart, 2013 – Antalya, Türkiye.
15. Onay-Besikci A, Kayki-Mutlu G, Arioglu Inan E. The Effects of DITPA on Fatty Acid Oxidation in HgC₂ Cells. International Workshop on Resistance to Thyroid Hormone Action, September 3-6, 2014 - Madrid, Spain.
16. Amasya G, Sandri G, Onay-Besikci A, Badilli U, Caramella C, Bonferoni C, Tarimci N. Qualitative and Quantitative Skin Effects of Lipid Nanoparticles. AAPS, San Diego, Annual Meeting and Exposition, November 2-6, 2014, San Diego, USA.
17. Badilli U, Onay-Besikci A, Amasya G, Sen T, Tarimci N, In Vitro Antipsoriatic Activity Of Fixed-Dose Combination Of Calcipotriol And Clobetasol Propionate, AAPS Annual Meeting and Exposition, November 2-6, 2014, San Diego, USA.
18. Çelik İ, Ayhan-Kılıçgil G, Onay-Besikci A. Synthesis of Some 1h-Benzimidazoles as Inhibitors of EGFR Tyrosine Kinase, World Academy of Science, Engineering and Technology, June 27-28, 2016, Copenhagen, Denmark.
19. Amasya G, Badilli U, Onay-Besikci A, Tarimci N. Lipid Nanoparticle Based Carbopol Gel for Topical Chemotherapy of 5-Fluorouracil, Skin Forum, June 21-22, 2016, London, UK.
20. Cicek M, Ozakca I, Ozis SE, Onay-Besikci A, Ozcelikay AT. Timolol improves vascular dysfunction via inhibition of oxidative stress in DOCA-salt hypertensive rats, EPHAR 2016, June 26-30, İstanbul, Turkey.
21. Arioglu Inan E, Erdogan B, Muderrisoglu E, Karaomerlioglu İ, Kayki-Mutlu G, Onay-Besikci A, Altan VM. The effect of leptin treatment on in vivo cardiac parameters of streptozotocin induced diabetic rats, 9th Annual Meeting of the Diabetes and Cardiovascular Disease, Jun 30-Jul 2 2016, Maffliers-France.

22. Çelik İ, Kılıçgil G, Kara Z, Güven B, Besikci A. Synthesis of Some 1H-Benzimidazoles Containing Cyclohexyl Substituted Thiosemicarbazides, Triazoles, Thiadiazoles as Inhibitors of EGFR Thyrosine Kinase. GPSS2017, October 11-13, 2017.
23. Yılmaz D, Kara Z, Güven B, Beşikci A, Gür S. The Possible Beneficial Effect of Ivabradine Treatment on Erectile Tissue in a Diabetic Rat Model. ISOPS 12th, June 26-29, 2018, Ankara, Turkey.
24. Yılmaz D, Kara Z, Güven B, Gür S, Beşikci A. The Effect of Carvedilol Treatment on Erectile Dysfunction in Streptozotocin-Induced Diabetic Rats. ISOPS 12th June 26-29, 2018, Ankara, Turkey.
25. Kara Z, Güven B, Onay-Besikci A. The Mechanism of Acute and Chronic Vascular Effects of Ivabradine in Control and Diabetic Rats. Frontiers in CardioVascular Biology 2018, April 20-22, 2018, Vienna, Austria.
26. Güven B, Kara Z, Onay-Besikci A. Therapeutic effect of Carvedilol on Cardiac Function in Streptozotocin-Diabetic Rats. Frontiers in CardioVascular Biology 2018, April 20-22, 2018, Vienna, Austria.
27. Kara Z, Güven B, Onay-Besikci A. Presence of HCN Channels in Rat Aorta and Prevention of Endothelial Dysfunction with Their Selective Inhibitor Ivabradine. Pharmacology 2018, December 18-20, 2018, London, UK.
28. Akdemir-Kalkan I, Aydin G, Pehlivanli A, Urkmez F, Topaloglu IE, Akyol B, Onay-Besikci A, Azap A, Memikoglu O. Systemic Antibiotic-Related Drug Interactions in a University Hospital: a Point Prevalence Study. ECCMID, April 13-16, 2019, Amsterdam, The Netherlands.
29. Güven B, Kara Z, Onay-Besikci A. Metabolic Effects of Carvedilol Through β -arrestin-2: Investigations in Cells and Streptozotocin-Diabetic Rats. SHVM 17th Annual Scientific Sessions, June 23-26, 2019, Amsterdam, The Netherlands.

IV. ORAL PRESENTATIONS

1. Onay-Besikci A, Altarejos JY, Lopaschuk GD. The gAd- Globular head domain of adiponectin improves mechanical function of the rabbit heart by stimulating glucose oxidation. Scientific Sessions of the American Heart Association, November 17-20, 2002 – Chicago, Illinois. (Published in CIRCULATION 106 (19): 1316 Suppl. S NOV 5, 2002)

2. Onay-Besikci A. Trimetazidine revisited: Current and future applications of metabolic modulation of the heart. EHRlich II, October 3-5, 2008 – Nürnberg, Germany.
3. Onay-Besikci A. Using drugs rationally: What did we learn? How do we utilize our knowledge? EAFP2013, May 16-18, 2013 - Ankara, Turkey.
4. Onay-Besikci A. Pharmacist Redefined: Possible Impact of Specialization in Clinical Pharmacy on Pharmacy Education and Practice, DRD 2015–International Multidisciplinary Symposium on Drug Research and Development, October 15-17, 2015 – Eskişehir, Turkey.
5. Kara Z., Güven B., Onay-Besikci A. Investigation of the Pleiotropic Vascular Effects of Ivabradine in Control and Diabetic Rats, 20th Annual Meeting of European Council for Cardiovascular Research, ECCR, October 14-16, 2016, Lake Garda, Poiano, Italy.

AWARDS

- PhD Scholarship, Higher Education Council of Turkey
- Alberta Heritage Foundation For Medical Research
- Basic Research Trainee Award by the American Heart Association (AHA) for the abstract “The gAd-globular head domain of adiponectin improves mechanical function of the rabbit heart by stimulating glucose oxidation”
- J Gordon Kaplan Graduate Student Award by University of Alberta
- The Scientific and Technological Research Council of Turkey-Postdoctoral Research Award
- Prof.Dr. R. Kazim Turker Young Investigator Award by Turkish Pharmacological Society

FUNDED PROJECTS

- TUBITAK (Scientific and Technological Research Council of Turkey) - SBAG 1001, “A Metabolic Approach in the Treatment of Diabetes-induced Dysfunction in the Rat Heart”, 2004-2006 (Principle Investigator)
- TUBITAK (Scientific and Technological Research Council of Turkey) - SBAG 108S105, “The Effects of Beta Blockers on Substrate Metabolism in Myocyte Cell Culture”, 2008- 2009 (Principle investigator)

- TUBITAK (Scientific and Technological Research Council of Turkey) - SBAG 1001, "Preparation of Niozomal Paclitaxel Formulations and Evaluation of Their in vivo and in vitro Behaviors" 2007- 2010 (Investigator)
- TUBITAK (Scientific and Technological Research Council of Turkey) - SBAG-110S409, "Evaluation of the In Vitro Antipsoriatic Efficacy of A Fixed-Dose Combination of Calcipotriol and Clobetasol Propionate on Human Epidermal Keratinocyte Cells", 2011- 2013 (Principle Investigator)
- TUBITAK (Scientific and Technological Research Council of Turkey) - SBAG-113S201, "Preparation and Characterization of One Dimensional Polymeric Nanostructures for Drug Release", 2013-2015 (Investigator).
- TUBITAK (Scientific and Technological Research Council of Turkey) - 213M689, "Development of Nanofiber Based Wound Dressing Prepared by Electrospinning for Chronic Wound Treatment", 2014-2016 (Scientific Advisor).
- TUBITAK (Scientific and Technological Research Council of Turkey) – SBAG-214S574, "Synthesis of Some New Benzimidazol Derivatives and Evaluation of Their Effects on EGFR Kinase Activity", 2015-2016 (Investigator).
- TUBITAK (Scientific and Technological Research Council of Turkey) – SBAG-115S564, "The Possible Effects of Leptin on Beta Adrenergic Receptor Responses in Streptozotocin Diabetic Rats", 2015- (Investigator).
- TUBITAK (Scientific and Technological Research Council of Turkey) - SBAG-116S631, "Investigation of the Cardiovascular Pleiotropic Effects and Mechanisms of Ivabradine in Streptozotocin-Induced Diabetes Model", 2017- (Principle Investigator)
- Ankara University, Scientific Projects – 17Ho237004, "Investigation of the Contribution of Beta Arrestin Proteins on Cardiovascular and Metabolic Effects of Carvedilol", 2017- (Principle Investigator)
- TUBITAK (Scientific and Technological Research Council of Turkey) – SBAG- 117S967, "Development And In Vitro - In Vivo Evaluation Of Topical Corticosteroid Loaded Semisolid Lipid Nanoparticle Dispersions For Treatment Of Atopic Dermatitis", 2017- (Scientific Advisor)
- TUBITAK (Scientific and Technological Research Council of Turkey) – SBAG – 217S961, "Carvedilol As A Biased Agonist: Evaluation of Metabolic Outcomes and Mitochondrial Biogenesis in Cell Lines", 2018- (Principle Investigator)

TEACHING

I. Undergraduate

Pharmacology I, II, III

Ankara University, Faculty of Pharmacy

OTC DRUGS

Ankara University, Faculty of Pharmacy

Pharmaceutical Care

Ankara University, Faculty of Pharmacy

Pharmacology I-II

Ankara University, Faculty of Health Sciences, Midwifery Program

Practical Drug Information I-II

Ankara University, Vocational School of Health, Pharmacy Services

II. Graduate***Pharmacology of the Autonomic Nervous System******Signal Transduction Mechanisms******Molecular Pharmacology******Drug-Receptor Interactions******Diabetes-induced Metabolic Alterations******Biochemical Basis of Diabetic Complications***

Ankara University, Graduate School of Health Sciences

ADMINISTRATIVE**Organization/Scientific Committee Member**

11th International Symposium of Pharmaceutical Sciences

2015

Chair

Clinical Pharmacy Division

2014-

Board member

Ankara University, Faculty of Pharmacy

2009-2014

Institutional Coordinator of Mevlana Exchange Program

Ankara University

2014- 2016

Symposium Secretary and Organization/Scientific Committee Member

10th International Symposium of Pharmaceutical Sciences

2012

Vice Coordinator of Mevlana Exchange Program

2013-2014

Organization Committee Member

9th International Symposium of Pharmaceutical Sciences

2009

Vice Coordinator of Erasmus Program
Ankara University, Faculty of Pharmacy

2008-2013

Organization Committee Member
8th International Symposium of Pharmaceutical Sciences

2006