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EDUCATION

Ph.D. in Biotechnology	2009
Biotechnology Institute, Ankara University, Turkey	
Dissertation: Investigation of XL α s Mediated Signal Transduction System	
M.Sc. in Medical Genetics and Biology	2003
Ankara University Medical School, Turkey	
Dissertation: The Effect of selective COX-2 inhibitors on Telomerase activity in Human promyelocytic leukemia cells	
B.S. in Biology	2000
Ankara University, Turkey	

RESEARCH EXPERIENCES

Research Assistant Professor	2016 - present
Vanderbilt University Department of Pharmacology	
Postdoctoral Research Fellow	2009 - 2016
Vanderbilt University Department of Pharmacology	
Graduate Student	2003 - 2006
Ankara University Biotechnology Institute, Ankara, Turkey	
Master's of Science Student	2000 - 2003
Ankara University Medical School, Medical Genetic and Biology Department	
Visiting Graduate Student	Feb - Mar 2008
Medical University of South Carolina, Department of Pharmacology	

PUBLICATIONS

Nicole A. Perry, Kevin P. Fialkowski, **Ali I. Kaya**, Juliana M. Taliaferro, Vsevolod V. Gurevich, Kevin N. Dalby, and T.M. Iverson. Arrestin-3 interaction with maternal embryonic leucine-zipper kinase. *Cell Signaling*, **2019**, Under review

Nicole A. Perry, David J. Marcus, Tamer S. Kaoud, **Ali I. Kaya**, John M. Pleinis, Qiuyan Chen, Sandra Berndt, Xuanzhi Zhan, Kevin N. Dalby, T.M. Iverson, and Vsevolod V. Gurevich. Regulation of the binding of the ASK1-MKK4/7-JNK3 kinase cascade components to arrestin-3 by kinase activation and ATP. *PNAS*, **2019**, 116(3):810-815

Marjorie Damian, Véronique Pons, Pedro Renault, Céline M'Kadmi, Bartholomé Delort, Lucie Hartmann, **Ali I. Kaya**, Maxime Louet, Didier Gagne, Khoubab Ben Haj Salah, Séverine Denoyelle, Gilles Ferry, Jean A. Boutin, Renaud Wagner, Jean-Alain Fehrentz, Jean Martinez, Jacky Marie, Nicolas Floquet, Céline Galès, Sophie Mary, Heidi

E. Hamm and Jean-Louis Banères. GHSR-D2R heteromerization modulates dopamine signaling through an effect on G protein conformation. PNAS. **2018**, 115 (17): 4501-4506

Kaya, AI, Lokits, AD., Gilbert, JA., Iverson, TM., Meiler, J., and Hamm, HE. A conserved hydrophobic core in Gai1 regulates G protein activation and release from activated receptor. J. Biol. Chem. **2016**, 291 (37): 19674-86.

Kaya AI, Iverson TM and Hamm HE. Functional stability of rhodopsin in a bicelle system: evaluating G protein activation by rhodopsin in bicelles. Methods Mol Biol. **2015**, 1271:67-76.

Kaya AI, Lokits AD, Gilbert JA, Iverson TM, Meiler J, Hamm HE. A Conserved Phenylalanine as a Relay between the $\alpha 5$ Helix and the GDP Binding Region of Heterotrimeric Gi Protein α Subunit. J. Biol. Chem. **2014**, 289(35): 24475-24487.

Alexander NS, Preininger AM, **Kaya AI**, Stein RA, Hamm HE, Meiler J. Energetic analysis of the R*-G complex links the $\alpha 5$ helix to GDP release and domain opening. Nat. Struct. Mol. Biol. **2014**, 21(1): 56-63.

Hamm HE, **Kaya AI**, Gilbert JA 3rd, Preininger AM. Linking receptor activation to changes in Sw I and II of G α proteins. J. Struct. Biol. **2013**, 184(11): 63-74.

Preininger AM*, **Kaya AI***, Gilbert JA 3rd, Busenlehner LS, Armstrong RN, Hamm HE. Myristoylation exerts direct and allosteric effects on G α conformation and dynamics in solution. Biochemistry. **2012**, 51(9): 1911-24. *Contributed equally.

Kaya AI, Onaran HO, Ozcan G, Ambrosio C, Costa T, Balh S, Ugur O. Cell Contact-Dependent Functional Selectivity of $\beta 2$ -Adrenergic Receptor Ligands in Stimulating cAMP Accumulation and Extracellular Signal-Regulated Kinase (ERK) Phosphorylation. J. Biol. Chem. **2012**, 287: 6362-74.

Thaker TM, **Kaya AI**, Preininger AM, Hamm HE, Iverson TM. Allosteric mechanisms of G protein-Coupled Receptor signaling: a structural perspective. Methods Mol. Biol. **2012**, 796:133-74.

Kaya AI, Ugur O, Altuntas O, Sayar K, Onaran HO. Long and short distance movements of $\beta(2)$ -adrenoceptor in cell membrane assessed by photoconvertible fluorescent protein dendra2- $\beta(2)$ -adrenoceptor fusion. Biochim. Biophys. Acta. **2011**, 1813(8):1511-24.

Van Eps N, Preininger AM, Alexander N, **Kaya AI**, Meier S, Meiler J, Hamm HE, Hubbell WL. Interaction of a G protein with an activated receptor opens the interdomain interface in the alpha subunit. PNAS. **2011**, 108(23):9420-9424.

Kaya AI, Thaker TM, Preininger AM, Iverson TM, Hamm HE. Coupling Efficiency of Rhodopsin and Transducin in Bicelles. Biochemistry. **2011**, 15(50); 3193-3203.

Oner SS, **Kaya AI**, Onaran HO, Ozcan G, Ugur O. $\beta 2$ -Adrenoceptor, Gs and adenylate cyclase coupling in purified detergent-resistant, low-density membrane fractions. Eur J Pharmacol. **2010**, 630: 42-52.

Kaya AI, Ugur O, Oner SS, Bastepe M, Onaran HO. Coupling of $\beta 2$ -adrenoceptors to XL αs and G αs : A new insight into ligand-induced G protein activation. J. Pharmacol. Exp. Ther. **2009**, 329: 350-359.

Elcioglu NH, Akin B, Toker E, Elcioglu M, **Kaya AI**, Tuncali T, Wollnik B, Hornby S, Akarsu NA. Colobomatous macrophthalmia with microcornea syndrome maps to the 2p23-p16 region. Am. J. Hum. Gen. **2007**, 143(12); 1308-1312.

CONFERENCE PRESENTATIONS

Ali I. Kaya, Nicole A. Perry, Vsevolod V. Gurevich, T. M. Iverson. The effect of Dopamine-1 receptor phosphorylation pattern on cell signaling. Gordon Research Conference, Molecular Pharmacology 2019, Ventura, California, U.S.A.

Ali I. Kaya, Alyssa Lokits, Jens Meiler and Heidi Hamm. Activation of the $G\alpha$ subunit: Information flow from conserved phenylalanine in the $\alpha 5$ helix to GDP binding region. Keystone Symposia, G Protein Coupled Receptors: Structural Dynamics and Functional Implications 2014, Snowbird, Utah, U.S.A.

Ali I. Kaya, Tarjani M Thaker, Scott M Meier, Anita M Preininger, Tina M Iverson, Heidi E Hamm. Coupling Efficiency of Rhodopsin and Transducin in the Bicelle Mixtures. Experimental Biology 2010, Anaheim, California, U.S.A., pp 229.

Ali I. Kaya, O. Altuntas, O Uğur, H.O. Onaran. Long and Short distance movements of $\beta 2$ -adrenoceptor in cell membrane assessed by photoconvertible fluorescent protein dendra - $\beta 2$ -adrenoceptor fusion. EPHAR Congress, Manchester, UK, 2008 pp40.

Kaya A.I., Uğur Ö., Öner Ş.S., Bastepe M., Onaran H.O. Coupling of $\beta 2$ -Adrenoceptor to Gs and XLas. Different conformational states of the receptor are perceived differentially by the variants. The 15th World Congress of Pharmacology, China 2006 pp79.

Öner Ş.S., **Kaya A.I.**, Onaran H.O., Uğur Ö. Coupling of $\beta 2$ -adrenoceptor to Gs and adenylyl cyclase in caveolin rich low density membrane fractions. Comparison of different preparation techniques. The 15th World Congress of Pharmacology, China 2006 pp199.

Altuntas O., Karakurt Ö., **Kaya A.I.**, Uğur Ö., Onaran H.O. F282L mutation in transmembrane helix-6 (6.44) of $\beta 2$ -adrenoceptor results in an inverse agonist resistant constitutive activity. The 15th World Congress of Pharmacology, China 2006 pp199

AWARDS AND FELLOWSHIPS

Turkish national scholarship program for Ph.D. Students	2004-2009
Turkish national scholarship program for M.Sc. Students	2001-2003

WORKSHOPS

Serial Crystallography Data Analysis with Cheetah and CrystFEL: Concepts and Tutorials July 25-29, 2015 ACA meeting.

Small Angle X-ray Scattering (SAXS) workshop. Dr. Greg Hura, Lawrence Berkeley National Laboratory, March 23, 2014.

STUDENT and RESEARCH ASSISTANT MENTORING

Vanderbilt University

- | | |
|---|-------------|
| • James Gilbert (Research Assistant) | 2010 - 2016 |
| • Austin N. Oleskie (Graduate student rotation) | Fall 2013 |
| • Alyssa Lokits (Graduate student) | 2013 - 2016 |
| • Anette Kaiser (Graduate student, Leipzig University) | Summer 2013 |
| • Caroline Schindler (Master student, Leipzig University) | Summer 2014 |
| • Minh Ganther (Master student, Leipzig University) | Summer 2015 |

PROFESSIONAL ASSOCIATIONS

American Crystallographic Association	2015 - present
American Society for Pharmacology and Experimental Therapeutics	2009 - present
American Society for Biochemistry and Molecular Biology	2009 – present