

BIOGRAPHICAL SKETCH

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NAME Nihal Tümer, Ph.D	POSITION TITLE Professor		
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Hacettepe University, Ankara, Turkey	B.S., M.S.	1972	Biology
Hacettepe University, Ankara, Turkey	Ph.D.	1980	Biophysics
Medical College of Pennsylvania, PA	Fellow	1984-88	Pharmacology

A. POSITIONS AND HONORS

- 1973-1976 Biologist, Cancer Research and Cytopathology Dept, Hacettepe University, Faculty of Medicine, Ankara, Turkey.
- 1976-1980 Graduate student, Dept. of Biophysics, Hacettepe University, Faculty of Medicine,
- 1980-1983 Assistant Research Biophysicist, Department of Biophysics, Hacettepe University, Ankara, Turkey
- 1988-1989 Research Assistant Professor, Dept. of Pharmacology, Medical College of Pennsylvania, PA.
- 1989-Present Pharmacologist, Geriatric Research, Education and Clinical Center, VA Medical Center, Gainesville, FL
- 1989-1994 Assistant Professor, Dept. of Pharmacology and Therapeutics, University of Florida, Gainesville, F Associate Professor, Dept. of Pharmacology and Therapeutics, University of Florida, Gainesville, FL
- 1994-Present Adjunct Professor, Dept of Applied Physiology and Kinesiology, University of Florida, Gainesville, FL.
- 2003-Present Professor, Dept. of Pharmacology and Therapeutics, University of Florida, Gainesville, FL

B. SELECTED PEER-REVIEWED PUBLICATIONS (Out of 68)

- Tümer, N.**, Hale, C., Lawler, J., and Strong, R.: Modulation of tyrosine hydroxylase gene expression in the rat adrenal gland by exercise: Effects of age. *Molecular Brain Research.*, 14:51-56, 1992.
- Scarpace, P.J., Shu, Y., and **Tümer, N.**: Exercise training partially reverses the age-related decline in myocardial β -adrenergic signal transduction. *J. Appl. Physiol.*, 77(2):737-741, 1994.
- Tümer, N.** and LaRochelle, J: Tyrosine hydroxylase expression: Influence of age and cold. *Pharmacol. Biochem. Behave.*, 51:775-780, 1995.
- Tümer, N.**, Bowman, C.J., LaRochelle, J.S., Kelley, A., and Scarpace, P.J.: Induction of Tyrosine Hydroxylase by Forskolin: Modulation with Age. *Eur. J. Pharmacol* 324:57-62, 1997.
- Tümer, N.**, LaRochelle, J.S. and Yürekli, M.: Exercise training reverses the age-related decline in tyrosine hydroxylase expression in rat hypothalamus. *J. of Gerontol.* 52(5):B255-259, 1997.
- Tümer, N.**, Scarpace, P.J., Baker, Henry V and LaRochelle, J.S.: AP-1 transcription factor binding activity in the adrenal medulla and hypothalamus with age and cold exposure. *Neuropharmacol.* 36(8):1065-1069, 1997.

- Li, H, Matheny, M., Nicolson, M., **Tümer, N.**, and Scarpace, P.J. Leptin gene expression and serum leptin correlate with increasing adiposity in rats. *Diabetes*, 46:2035-2039, 1997.
- Tümer, N.**, C.S Broxson., J.S. LaRoche and P.J. Scarpace. Induction of tyrosine hydroxylase and NPY by carbachol. *J Gerontology: Biological Sciences*, B418-B423, 1999.
- Demirel, H.A., Powers, S.K., Naito, H and **Tümer, N.**: The effects of exercise duration on adrenal HSP 72/73 induction in rats. *Acta. Physiol. Scand*, 167(3):227-231,1999.
- Scarpace, P.J., M. Matheny, R.L. Moore and **Tümer, N.** Impaired leptin responsiveness in aged rats. *Diabetes* 49:431–435, 2000.
- Scarpace, P.J., M.V. Kumar, H. Li and **Tümer, N.** Uncoupling proteins 2 and 3 with age: regulation by fasting and β 3-adrenergic agonist treatment *J Gerontology*, 55A:B588-B592, 2000.
- Scarpace, P.J. and **Tümer, N.** Leptin resistance with age-related obesity. *J Anti-aging Med* 3:1-7, 2000.
- Scarpace, P.J. and **Tümer, N.** Peripheral and hypothalamic leptin resistance with age-related obesity. *Physiol Behav.*, 74:1-7, 2001.
- Tümer, N.**, Demirel. H.A., Serova.L., Sabban.E.L., Broxson, C.S., and Powers S.K.: Gene expression of catecholamine biosynthetic enzymes following exercise: Modulation by age. *Neuroscience*. 103:703-711, 2001.
- Erdem R S., Broxson, C.S., Demirel. H.A., Nankova B.B., Sabban.E.L., and **Tümer, N.**: The sympathoadrenal response to long term high intensity exercise training in rats *J Appl. Physiol.*, 93:463-468, 2002
- Scarpace, P.J., M. Matheny, Y. Zhang, **N. Tümer**, C.D. Frase, E.W. Shek, B. Hong, V. Prima, and S. Zolotukhin. Central leptin gene delivery evokes persistent leptin signal transduction in young and aged-obese rats but physiological responses become attenuated over time in aged-obese rats. *Neuropharmacol.*, 42:549-562, 2002.
- Scarpace, P.J., M. Matheny, Y. Zhang, E.W. Shek, V. Prima, S. Zolotukhin and **N. Tümer**. Leptin-induced leptin resistance reveals separate roles for the anorexic and thermogenic responses in weight maintenance. *Endocrinology*, 143:3026-3035, 2002.
- Erdem R S., Broxson, C.S., Erdem, A., Spars D.S., William, R.T., and **Tümer, N.**: The age-related discrepancy in the effect of neuropeptide Y on select catecholamine biosynthetic enzymes in the adrenal medulla and hypothalamus in rats. *Neuropharmacol.* 43(8):1280-1288, 2002.
- Scarpace, P.J., Matheny, M., Zolotukhin, S., **Tümer, N.**, and Zhang, Y.: Leptin-induced leptin resistance rats exhibit enhanced responses to the melanocortin agonist MTII. *Neuropharmacol.*, 45:211-219, 2003.
- Dogan, M.D., Sumners, C., Broxson, C.S., Clark, N., and **Tümer, N.**: Central angiotensin II increases biosynthesis of tyrosine hydroxylase in the rat adrenal medulla. *Biochem and Bioph Res Com.*, 313:633-636, 2004.
- Zhang, Y., Matheny, M., **Tümer, N.**, and Scarpace P.J.: The melanocortin agonist MTII circumvents aged related leptin resistance. *Neurobiol Aging*, 25(10):1349-1360, 2004.
- Scarpace P.J., Matheny, M., Zhang, Y., Cheng, K.Y. and **Tümer N.** : Leptin-induced leptin resistance exacerbates diet-induced obesity and is associated with impaired maximal leptin signaling capacity. *Diabetologia*, 48(6):1075-83, 2005.
- Tümer, N.**, Scarpace, P.J., Dogan, M.D., Broxon, C.S., Matheny, M., Yurek, D.M., Peden, C.S., Burger, C., Muzyczka, N. and Mande,I R.J. Hypothalamic rAAV-mediated GDNF gene delivery ameliorates age-related obesity. *Neurobiol Aging*, (27): 459-470, 2006.
- Erdős,B., Broxson, C.S., King, M.A, Scarpace, P.J, and **Tümer N.** Acute pressor effect of central angiotensin II is mediated by NAD(P)H-oxidase-dependent superoxide production in the hypothalamic cardiovascular regulatory nuclei *.J of Hypertension*, 24(1):109-116, 2006

C. RESEARCH SUPPORT

TÜMER, NIHAL

ONGOING

VA Merit Review Tumer (P.I.)
Veterans Administration

10/01/04 to 09/30/08

Angiotensin II and Tyrosine Hydroxylase with Age

The major goals of this project are: Objective 1. Enhanced adrenal medullary responses to Ang II central stimulation is one mechanism contributing to the elevated TH synthesis in the adrenal medulla. Objective 2. Splanchnic nerve activation of adrenal medulla mediates the increase in TH gene expression and synthesis in the adrenal medulla with age. Objective 3. AT₁ receptor number and signaling are elevated with age in the hypothalamus, contributing to the enhanced Ang II central stimulation for TH synthesis with age in the adrenal medulla.

Role: P.I.

RO1 AG026159 Scarpace (P.I.)
NIH

09/01/04 to 08/31/09

Leptin Resistance: One Mechanism Underlying Age-related Obesity

The major goals of this project are: Is the leptin activated IRS-P13K pathway impaired with leptin resistance or age-related obesity? Does the leptin mediated IRS-P13K pathway differentially regulate the anorexic and energy expenditure responses to leptin? Is elevated leptin, independent of obesity, the primary factor in leptin resistance?

Role: Co-Principal Investigator

R01 AG20985 Scarpace (P.I.)
NIH

08/03 to 07/07

"Age-related Obesity: Interventions with Gene Delivery"

The major goals of this project are: Does leptin-induced or age-induced leptin resistance result from diminished melanocortin tone? Will silencing of the rAAV-delivered leptin transgene restore melanocortin tone? Will treatment with rAAV-POMC circumvent leptin resistance and reduce adiposity in leptin resistant rats.

Role: Co-Principal Investigator