

CURRICULUM VITAE

ZOLTAN DERDAK, M.D.

CONTACT INFORMATION

Business or Mailing Address: Liver Research Center, Rhode Island Hospital & Brown Medical School
55 Claverick Street, Room 413
Providence, RI 02903
Business Telephone Number: 401-444-2536
Business Fax Number: 401-444-2939
Electronic mail address: Zoltan_Derdak@Brown.edu

EDUCATION

1991 – 1995 Masters in Biology, Diosgyori Gimnazium, Miskolc Hungary
1995 – 1996 Postgraduate Study in Physics, University of Debrecen, Hungary
1996 – 2002 M.D., University of Debrecen Medical and Health Science Center, Debrecen, Hungary
2002 Postdoctoral Research Study, University of Debrecen, Medical and Health Science Center, First Department of Medicine, Debrecen, Hungary

POSTGRADUATE TRAINING

2002 Clinical Practitioner, University of Debrecen, Medical and Health Science Center, First Department of Medicine, Debrecen, Hungary
2002 – 2009 Research Associate, Liver Research Center, Rhode Island Hospital and Warren Alpert Medical School of Brown University, Providence, Rhode Island, USA

ACADEMIC APPOINTMENTS

2009 - present Assistant Professor in Medicine (Research), Warren Alpert Medical School of Brown University, Providence, Rhode Island, USA

AWARDS AND HONORS

1999 Ascona Prize (Balint Award for medical students founded by Prof. Dr. Luban-Plozza)
2002 *Graduate summa cum laude*, University of Debrecen, Medical and Health Science Center, Debrecen, Hungary
2008 Dr. George A. Bray Research Scholars Award in obesity
2010 Karen T. Romer Undergraduate Teaching and Research Award
2012 Young Investigator Bursary for the 2012 EASL Meeting (poster was amongst the best 200)
2012 AASLD Presidential Distinction Poster Award (poster was amongst the best 10%)
2012 Front page of issue 5 (volume 32) of Liver International featured my work
2012 Liver International paper (32(5):761-70) was featured in Global Medical Discovery Series. Global Medical Discovery is viewed almost 285,000 times each month by our audience of academic and industrial R&D personnel and it is featured on the intranets of a growing number of the top 20 pharmaceutical companies and major academic institutions.
2013 Young Investigator Bursary for the 2013 EASL Meeting (poster was amongst the best 200)
2013 Rhode Island Foundation Medical Research Grant for research project entitled ‘Inhibiting Glycolysis in Liver Cancer by TIGAR Overexpression to Improve Chemosensitivity’
2013 Journal of Hepatology paper 58(4):785-791 has been named amongst the Top 5 Most

Downloaded Paper at the Journal of Hepatology
2014 Karen T. Romer Undergraduate Teaching and Research Award
2014 AASLD Presidential Distinction Poster Award (poster was amongst the best 10%)

PROFESSIONAL MEMBERSHIPS AND OTHER EXPERIENCE

2007 – 2013 Member, American Association for Cancer Research
2007 – 2013 Member, American Gastroenterological Association
2011 NIH/NIEHS ad hoc reviewer
2012. Member, European Association for the Study of the Liver
2012 – present Member, American Association for the Study of Liver Diseases
2013 – present Member, Hungarian Medical Association of America/New England Chapter
2012. Apr.1. Poster Judge at the 11th Annual New England Science Symposium at Harvard Medical School
2013. Mar.2. Poster Judge at the 12th Annual New England Science Symposium at Harvard Medical School
2013 – present Central Research Safety Committee at Lifespan
2014. Apr.6. Poster Judge at the 13th Annual New England Science Symposium at Harvard Medical School
2014. Apr.11. PhD Committee Member at the PhD thesis defense of Daniel Rand (Brown University)

ORIGINAL PUBLICATIONS

Horimoto M, Fulop P, **Derdak Z**, Wands JR, Baffy G (2004) Uncoupling protein-2 deficiency promotes oxidant stress and delays liver regeneration in mice. *Hepatology*, 39(2):386-392.

Derdak Z, Fulop P, Sabo E, Tavares R, Berthiaume EP, Resnick MB, Paragh G, Wands JR, Baffy G (2006) Enhanced colon tumor induction in uncoupling protein-2 deficient mice is associated with NF- κ B activation and oxidative stress. *Carcinogenesis*, 27(5):956-961.

Fulop P*, **Derdak Z***, Sheets A, Sabo E, Berthiaume E, Resnick M, Wands JR, Paragh G, Baffy G (2006) Lack of UCP2 reduces Fas-mediated liver injury in *ob/ob* mice and reveals importance of cell-specific UCP2 expression. *Hepatology*, 44(3):592-601. (***Equal contribution**)

Sheets A, Fulop P, **Derdak Z**, Mark NM, Kassai A, Sabo E, Wands JR, Paragh G, Baffy G (2008) Uncoupling protein-2 modulates the lipid metabolic response to fasting in mice. *American Journal of Physiology: GI and Liver Physiology*, 294(4):G1017-24.

Derdak Z, Mark NM, Beldi G, Robson SC, Wands JR, Baffy G (2008) The mitochondrial uncoupling protein-2 promotes chemoresistance in cancer cells. *Cancer Research*, 68(8):2813-9.

Mirdamadi HZ, Sztanek F, **Derdak Z**, Seres I, Harangi M, Paragh G (2008) The human paraoxonase-1 phenotype modifies the effect of statins on paraoxonase activity and lipid parameters. *British Journal of Clinical Pharmacology*, 66(3):366-74.

Laperle CM, Hamilton TJ, Wintermeyer P, Walker EJ, Shi D, Anastasio MA, **Derdak Z**, Wands JR, Diebold G, Rose-Petruck C (2008) Low density contrast agents for X-ray phase contrast imaging: the use of ambient air for x-ray angiography of excised murine liver tissue. *Physics in Medicine and Biology*, 53(23):6911-6923

Harangi M, Mirdamadi HZ, Seres I, Sztanek F, Molnar M, Kassai A, **Derdak Z**, Illyes L, Paragh G (2009) Atorvastatin effect on the distribution of high-density lipoprotein subfractions and human paraoxonase activity. *Translational Research*, 153 (4):190-198

- Derdak Z**, Lang CH, Villegas KA, Tong M, Mark NM, de la Monte SM, Wands JR (2011) Activation of p53 enhances apoptosis and insulin resistance in a rat model of alcoholic liver disease. *Journal of Hepatology*, 54(1):164-172
- Baffy G, **Derdak Z**, Robson SC (2011) Mitochondrial recoupling: a novel therapeutic strategy for cancer? *Br J Cancer*, 105(4):469-74
- Rand D, Ortiz V, Liu Y, **Derdak Z**, Wands JR, Taticek M, Rose-Petruck C (2011) Nanomaterials for X-ray imaging: gold nanoparticle-enhancement of X-ray scatter imaging of hepatocellular carcinoma. *Nanoletters*, 11(7):2678-83
- De la Monte SM, **Derdak Z**, Wands JR (2012) Alcohol, insulin resistance and the liver-brain axis. *Journal of Gastroenterology and Hepatology*, 27 Suppl 2:33-41.
- Derdak Z**, Villegas KA, Wands JR (2012) Early growth response-1 transcription factor promotes hepatic fibrosis and steatosis in long-term ethanol-fed Long-Evans rats. *Liver International*. 32(5):761-70
- Derdak Z**, Villegas KA, Harb R, Wu A, Sousa A, Wands JR (2013) Inhibition of p53 attenuates steatosis and liver injury in a mouse model of non-alcoholic fatty liver disease. *Journal of Hepatology*, 58(4):785-791
- Lang CH, **Derdak Z**, Wands JR (2014) Strain-dependent differences influence the effect of ethanol in insulin-stimulated glucose uptake in skeletal and cardiac muscle. *Alcoholism: Clinical and Experimental Research*. 38(4):897-910
- Karagozian R, **Derdak Z**, Baffy G (2014) Obesity-associated mechanisms of hepatocarcinogenesis. *Metabolism*. 63(5):607-17
- Rand D, Walsh EG, **Derdak Z**, Wands JR, Rose-Petruck C (2014) A comparison of X-ray scatter imaging and magnetic resonance imaging using nanoparticle contrast agents. *Academic Radiation* (submitted)
- Derdak Z**, Sousa A, Ohsaki A, Sack J, Wands JR (2014) The physiological regulation of TIGAR and its role in the fatty liver. (in preparation)
- Huang CK, Yu T, **Derdak Z**, De la Monte SM, Wands JR, Kim M (2014) Restoration of Wnt/ β -catenin signaling attenuated alcoholic liver disease. *Hepatology* (submitted)

BOOKS

- Derdak Z**, Garcia TA, Baffy G. (2009) Detection of uncoupling protein-2 (UCP2) as a mitochondrial modulator of apoptosis. *Methods in Molecular Biology*, 559:205-217

POSTER PRESENTATIONS

- Paragh G, Illyes L, Kobling T, Harangi M, **Derdak Z**, Kassai A, Balogh Z, Pados G, Seres I (2003) Atorvastatin effect on paraoxonase and enzymes responsible for HDL remodelling. *Atherosclerosis* (4 Suppl 2) P299.
- Baffy G, Fulop P, **Derdak Z**, Wands JR, Horimoto M (2003) Modulation of oxidant production and cell cycle activity by uncoupling protein-2 in regenerating mouse liver. XIIth Falk Liver Week, Freiburg, Germany (3rd Best Poster Prize).

Horimoto M, Fulop P, **Derdak Z**, Wands JR, Baffy G (2003) Uncoupling protein-2 deficiency alters cell cycle protein expression in regenerating mouse liver. *Hepatology* 38, (4 Suppl 1), 235A.

Berthiaume E, **Derdak Z**, Konkin TA, Resnick MB, Wands JR, Baffy G (2004) Increased expression of uncoupling protein-2 in cholangiocarcinoma may confer resistance to apoptosis. *Hepatology* 40 (4 Suppl 1), 372A.

Derdak Z, Fulop P, Konkin A, Resnick A, Wands JR, Paragh G, Baffy G (2005) Azoxymethane is more tumorigenic in the colon of UCP2-deficient mice. *Gastroenterology* 128 (4 Suppl 1) A176.

Derdak Z, Sabo E, Tavares R, Resnick MB, Wands JR, Baffy G (2006) NF- κ B activation is linked to proximal colon tumor induction in UCP2 deficient mice. *Gastroenterology* 130 (4 Suppl 2) A537.

Sheets A, **Derdak Z**, Sabo E, Fulop P, Wands JR, Baffy G (2006) Fasting-induced changes in hepatic lipid metabolism are blunted in UCP2 deficiency and point to a novel physiological role. *Hepatology* 44 (4 Suppl 1) 482A.

Derdak Z, Mark NM, Wands JR, Baffy G (2007) Mitochondrial uncoupling protein-2 inhibits oxidative stress and p53-mediated apoptosis in HCT116 cells. Accepted for presentation in the Poster Session at the 2007 AACR Annual Meeting in Los Angeles, CA and published in the 2007 *Proceedings of the American Association for Cancer Research* (#3617).

Derdak Z, Mark NM, Beldi G, Garcia TA, Robson SC, Wands JR, Baffy G. (2008) Modulation of the p53 response by uncoupling protein-2 promotes chemoresistance in colon cancer cells. Accepted for presentation in the Poster Session at the 2008 AACR Annual Meeting in San Diego, CA and published in the 2008 *Proceedings of the American Association for Cancer Research* (#2791).

Derdak Z, Mark NM, Beldi G, Garcia TA, Robson SC, Wands JR, Baffy G. (2008) Uncoupling protein-2 alters the p53 response and the bioenergetics of colon cancer cells. *Gastroenterology* 134 (4 Suppl 1) A744.

Derdak Z, de la Monte SM, Wands JR (2008) Oxidative stress-mediated p53 activation enhances alcohol induced liver damage in rats. *Hepatology* 48 (4 Suppl 1), 461A.

Derdak Z, Wands JR (2009) P53 enhances apoptosis and insulin resistance in the Long-Evans rat model of alcoholic liver disease (ALD) by activating novel downstream target genes. *Hepatology* 50 (4 Suppl), 1152A.

Ortiz V, Rose-Petruck C, Diebold GJ, **Derdak Z**, Wands JR (2009) Gold nanoparticle labeling of hepatocellular carcinoma for X-ray imaging. The 238th American Chemical Society National Meeting, Washington, DC, August 16-20, 2009

Ortiz V, **Derdak Z**, Liu Y, Diebold GJ, Wands JR, Rose-Petruck C (2010) X-ray detection of hepatocellular carcinoma (HCC) using gold nanoparticles conjugated to HCC-specific SF25 antibodies. Accepted for presentation in the Poster Session at the 2010 AACR Annual Meeting in Washington, DC and published in the 2010 *Proceedings of the American Association for Cancer Research* (#4343).

Derdak Z, Villegas KA, Wands JR (2010) Fibrosis-related transcription factor early growth response-1 (EGR1) promotes steatosis in the liver of ethanol-fed Long-Evans rats by activating sterol regulatory element binding protein-1 (SREBP1). *Hepatology* 52 (4 Suppl 1), 1112A

Derdak Z, Villegas KA, Wands JR (2010) The p53 inhibitor, pifithrin-alpha p-nitro attenuates non-alcoholic fatty liver disease (NAFLD) in mice. *Hepatology* 52 (4 Suppl 1), 1052A

Derdak Z, Sack J, Harb R, Sousa A, Wands JR (2012) Inhibition of p53 Attenuates Insulin Resistance and Liver Injury in Ethanol-Fed Long-Evans Rats. *Journal of Hepatology*, 56, Suppl 2, S529

Derdak Z, Villegas KA, Harb R, Wands JR (2012) Partial inhibition of p53 attenuates steatosis in mice and human hepatocytes. *Journal of Hepatology*, 56, Suppl 2, S529

Derdak Z, Wu A, Sack J, Harb R, Sousa A, Wands JR (2012) Partial inhibition of p53 diminishes hepatic insulin resistance and hepatocellular apoptosis in the livers of ethanol-fed Long-Evans rats. *Hepatology*, 56, Suppl 1, 976A, Presidential Poster of Distinction

Derdak Z, Wu A, Souza A, Wands JR (2013) TIGAR promotes insulin resistance by increasing reductive stress in ethanol-treated human HepaRG cells. *Journal of Hepatology*, 58, Suppl 1, S225

Derdak Z, Sousa A, Wu A, Wands JR (2013) Inhibition of p53 mitigates ethanol-induced TIGAR upregulation, reductive stress and subsequently improves hepatic insulin signaling in the livers of ethanol-fed Long-Evans rats. *Journal of Hepatology* 58, Suppl 1, S224-S225

Derdak Z, Sousa A, Votolato D, Gonzalez R, Wands JR (2013) TIGAR is an insulin-regulated bisphosphatase that promotes hepatic insulin resistance and ChREBP β -mediated steatosis in the fatty liver. *Hepatology*, 58, Suppl 1, 532A

Huang CK, Yu T, **Derdak Z**, De la Monte SM, Wands JR, Kim M (2014) Pharmacological restoration of WNT/ β -catenin signaling attenuates alcoholic liver disease progression in a rat model. *Hepatology*, 60, Suppl 1, 148A

Derdak Z, Harb R, Wands JR (2014) TIGAR overexpression increases chemosensitivity in sorafenib-resistant hepatocellular carcinoma cells. *Hepatology*, 60, Suppl 1, 150A, Presidential Poster of Distinction

Derdak Z, Ohsaki A, Kalani Z, Harb R, Wands JR (2014) TIGAR is a ‘mitochondrial-preload’ regulator that modulates insulin signaling and fatty acid metabolism in the liver. *Hepatology*, 60, Suppl 1, 143A

ORAL PRESENTATIONS

Derdak Z, Fulop P, Konkin TA, Resnick MB, Wands JR, Baffy G (2004) Azoxymethane (AOM)-induced colon tumor formation is enhanced in UCP2-KO mice. 36th Annual Meeting, Hungarian Medical Association of America, Sarasota, Florida

Derdak Z, Fulop P, Konkin A, Resnick A, Wands JR, Baffy G (2005) Enhanced colon tumor induction by azoxymethane in mice deficient for UCP2. Uncoupling proteins: Current status and therapeutic prospects. Workshop. Madrid, Spain

Sheets A, Fulop P, **Derdak Z**, Sabo E, Wands JR, Baffy G (2006) Role of uncoupling protein-2 in fasting-induced metabolic response and hepatic steatosis. *Gastroenterology* 130 (4 Suppl 2) A21.

Derdak Z, Sheets A, Sabo E, Fulop P, Wands JR, Baffy G (2006) Fas-induced injury is diminished in UCP2-deficient *ob/ob* mice and points to cell-specific UCP2 expression in fatty liver. The 57th Annual Meeting of the American Association for the Study of Liver Diseases. *Hepatology* 44 (4 Suppl 1) 214A.

Mark NM, **Derdak Z**, Wands JR, Baffy G (2007) Mitochondrial uncoupling protein-2 alters chemoresistance by decreasing ROS production and apoptosis rates in colon cancer cells. *Gastroenterology* 132 (4 Suppl 2) A154.

Derdak Z, Mark NM, Wands JR, Baffy G (2007) Uncoupling protein-2 regulates the p53 response in cancer cells. 38th Annual Meeting, Hungarian Medical Association of America, Sarasota, Florida

Villegas KA, Wands JR, **Derdak Z** (2010) The p53 inhibitor, pifithrin- α p-nitro, ameliorates steatosis and oxidative stress in a mouse model of non-alcoholic fatty liver disease (NAFLD). 18th Annual Hospital Research Celebration at Rhode Island Hospital, October 19-21, 2010 (selected for presentation in the competition for the New Investigator Award)

Sack J, Harb R, Sousa A, Wands JR, **Derdak Z** (2011) Inhibition of p53 attenuates liver injury in ethanol-fed Long-Evans rats. 19th Annual Hospital Research Celebration at Rhode Island Hospital, October 25-27, 2011 (selected for presentation in the competition for the New Investigator Award)

Derdak Z, Villegas KA, Wands JR (2011) Inhibition of p53 function diminishes steatosis in a mouse model of NAFLD. The 62nd Annual Meeting of the American Association for the Study of Liver Diseases. *Hepatology* 54 (4 Suppl 1) 80A.

Derdak Z, Sousa A, Votolato D, Gonzalez R, Wands JR (2013) TIGAR promotes hepatic insulin resistance and steatosis in the fatty liver. 45th Annual Meeting, Hungarian Medical Association of America, Sarasota, Florida

INVENTORSHIP

Issued patents (USA)

Inventors: Baffy G, **Derdak Z**, Mark NM
Title: Inhibition of uncoupling protein
Patent No.: US 60/931,634
Acceptance: May 23, 2007
Assignee: Rhode Island Hospital

Inventors: Rose-Petruck C, Wands JR, Rand D, Ortiz V, **Derdak Z**
Title: Methods, compositions and kits for diagnosing a presence of a tumor using nanoparticles and X-ray scatter imaging
Patent No.: US 61/544,419 and 61/546,484
Acceptance: October 12, 2012
Assignee: Brown University

MENTORSHIP

<u>Name</u>	<u>Degree (if applicable)</u>	<u>Time of training</u>	<u>Academic position</u>
Andrea Kassai	M.D.	2007.Oct.1.-Dec.31.	Research Associate
Jade Carter	Ph.D.	2008.Feb.1.-Mar.31.	Ph.D. Graduate
Tauquir Puthawala		2008.Jun.1.-Jul.31.	Medical Student
Vivan Ortiz		2009.Jan.1.-2010. May 20.	Research Assistant
Kristine A. Villegas		2009.Oct.27.- 2011. May. 20.	Undergraduate Student
Andressa Lopes		2010.Jan.4.-Feb.26.	Medical Student
Danielle Rand		2010.Feb.1.-2014.May.1	Ph.D. Candidate
Brigid Lynch		2010.Jun.1.-Aug.3.	Undergraduate Student
Aryanna Sousa		2011.Jan.3.- Feb.24. 2011.Jul.10-Jul.29. 2012.Aug.1- 2013.Jun.31	Medical Student
Jordan Sack		2011.Jun.14.-Aug. 30.	Medical Student
Ragheb Harb	M.D.	2011.Jul.1- 2012.May. 11.	Research Associate

Paula Sanzovo	2013. Dec.21-2014.Jun.31. 2012.Jan.3-Feb.29.	Medical Student
Annie Wu	2012.Jan.25-2013. Jan.24.	Undergraduate Student
Rafael Gonzalez	2012.Jun.4-Sept.20. 2013. Feb.1- Mar. 4.	Medical Student
Renata Martin	2013. Mar.6-	Undergraduate Student
Dante Votolato	2013. Mar.6-Dec.20.	Undergraduate Student
Saloni Mehrota	2013. Jun.1- 2014. May 1.	Undergraduate Student
Zohra Kalani	2013. Jun.1-	Undergraduate Student
Asa Ohsaki	2013. Jun.1-	Undergraduate Student
Tamar Kaminski	2014. Jun.1-	Undergraduate Student

EDITORIAL CONSULTANT

2008 – present	Cancer Letters
2009 – present	Clinical Cancer Research
2010 – present	Journal of The American College of Nutrition
2011 – present	Liver International
2011 – present	PloS One
2012 – present	Journal of Molecular Cell Biology
2012 – present	European Journal of Pharmacology
2012 – present	Science
2014 – present	Endocrinology
2014 – present	Hepatology