

Curriculum Vitae



László Nagy, M.D., Ph.D., Dr.habil., MHAS

Personal details:

- Office address:** Department of Biochemistry and Molecular Biology
Research Center for Molecular Medicine
Medical and Health Science Center
University of Debrecen, Hungary
Life Science Building, Egyetem tér 1.
Debrecen, Hungary H-4010
phone: +36-52-416-432 fax: +36-52-314-989
E-mail: nagyl@med.unideb.hu
Web: <http://nlab.med.unideb.hu>
- Date of Birth:** October 11, 1966
- Place of Birth:** Debrecen, Hungary
- Sex:** Male
- Marital status:** Married, Andrea Károly, M.D. 1992
- Children:** Bence László Nagy, born: October 3rd 1995
Máté Zsombor Nagy, born: August 31 1998
- Citizenship:** Hungarian
- Degrees:** **Member of the Hungarian Academy of Sciences (2007)**
Dr. habil. (Habilitation) University of Debrecen,
Basic Medical Sciences [6/2006] (2006)

Doctor of the Hungarian Academy of Sciences (D.Sc.)
Biological Sciences (Biochemistry and Molecular Biology)

[4.481/2005] (2005)

Doctor of Philosophy (Ph.D.)

(Summa cum laude)

Medical Sciences (Cell and Molecular Biology),
University Medical School of Debrecen, Hungary
[G 44-138/1995] (1995)

Medical Doctor (M.D.)

(Summa cum laude) University Medical School of Debrecen,
Hungary [35-117/91] (1991)

Languages: English (State Exam, Advanced Level A025784 #019455, 2000)
Russian (State Exam, Intermediate Level # A 096533/1987)

Professional Appointments:

Present appointments:

Primary appointments:

Professor of Biochemistry and Molecular Biology,
Department of Biochemistry and Molecular Biology, University of Debrecen, Hungary
(September 1, 2006-)

Head of Debrecen Clinical Genomics Center
(July 1, 2000-)

Secondary appointments:

Fulbright Scholar

Visiting Scientist, The Salk Institute for Biological Studies (2010-2011)

International Research Scholar of the Howard Hughes Medical Institute
(2001-2011)

Past appointments:

Wellcome Trust International Senior Research Fellow (2005-2010)

Adjunct Professor of Pharmacology and Physiology

Department of Integrative Biology Pharmacology and Physiology
University of Texas-Houston, Medical School, Houston Texas, USA
(September 1, 1999- August 31, 2010)

Associate Professor of Biochemistry and Molecular Biology,

Department of Biochemistry and Molecular Biology, University of Debrecen, Hungary
(July 1, 2000- August 31, 2006)

Young Investigator of the European Molecular Biology Organization (EMBO)
(July 1, 2001- June 30, 2004)

* **Assistant Professor of Biochemistry and Molecular Biology**,
Department of Biochemistry and Molecular Biology, University of Debrecen, Hungary
(October 1, 1999- June 30, 2000)

Postdoctoral Associate,
Gene Expression Laboratory, The Salk Institute for Biological Studies, La Jolla, USA
(1996-1999)

Special Fellow of the Leukemia Society of America (1998-1999)
Postdoctoral Fellow of the Howard Hughes Medical Institute (1997-1998)
Advisor: Ronald M. Evans Ph.D.

Instructor in Biochemistry and Molecular Biology,
Department of Biochemistry and Molecular Biology, University medical School of
Debrecen, Hungary
(April 1 1995 - September 30 1999)

Postdoctoral Fellow,
Department of Pharmacology, University of Texas, Houston, Medical School, USA,
(1992 - 1995)
Advisor: Peter J.A. Davies M.D., Ph.D.

Research Fellow of the Hungarian Academy of Sciences,
Department of Biochemistry, University Medical School, Debrecen, Hungary.
Advisor: Laszlo Fesus M.D., Ph.D.
* First independent position

Education (graduate and postgraduate):

Ph.D. Student, in Medical Sciences (cell and molecular biology), University Medical
School, Debrecen, Hungary
(1992-1995)
Advisors: Dr Peter J.A. Davies, University of Texas-Houston
and Dr László Fésüs, University Medical School of Debrecen

Medical Student, University Medical School, Debrecen, Hungary
(including one year internship in 1991)
(1985-1991)

High School Student, Tóth Árpád Gimnázium, Debrecen, Hungary
(1981-1985)

Awards and Honors:

Pro Scientia Gold Medal for Outstanding Scientific Achievements presented by the President of the Hungarian Academy of Sciences (1989)
Outstanding Tutor in Biology University Medical School of Debrecen (1989)
Weszprémi-Prize for Outstanding Academic and Scientific Activity presented by the Rector of the University Medical School of Debrecen (1991)
Special Fellow of the Leukemia Society of America (1998-1999)
Cheryl Whitlock/Pathology Prize, Stanford University (1998)
Boehringer Ingelheim Research Award (1999)
Széchenyi Professorship (1999-2002)
Ranked as #5 scientist in 1999 based on the number of highly cited, “Hot papers” published in 1997-1998 (Institute for Scientific Information Hot papers Database)
Howard Hughes Medical Institute International Research Scholar (2000-2010)
EMBO Young Investigator (2000-2004)
Szechenyi Istvan Fellowship (2003-2006)
Wellcome Trust International Senior Research Fellow (2005-2010)
EMBO Member (2007)
ESCI Award for Excellence in Biomedical Investigation (2008)
Fulbright Scholar (2010-2011)

Memberships in professional societies:

Hungarian Biochemical Society, Member since 1989
Society of Pro Scientia Gold Medal Laureates, Member since 1995
Endocrine Society (USA), Active Member since 2002
European Macrophage and Dendritic Cell Society, Member since 2002
American Society of Biochemistry and Molecular Biology, Member since 2003
Hungarian Society for Bioinformatics, Founding member, executive committee member 2006-2010
American Association of Immunologists, member since 2011

Advisory functions:

BioSystems International SAS, Scientific advisor (2004-2006)
Cell therapy Unit, University of Debrecen Member of the Scientific Advisory Board (2004-)
Gerson Lerhman Group Councils, member since 2006
UDGenoMed, Ltd., Chief Scientific Officer (2007-)
Gedeon Richter, Inc., Member of the Scientific Advisory Board (2008-)
Member of the International Advisory Board of the 10th Symposium on Dendritic cells DC2008 (Kobe, Japan)
International Society of Dendritic Cell and Vaccine Research, Advisory Committee member (2010-)
Institute of Genetics, HAS BRC, Szeged Scientific Advisory Board, member (2010-)

Refereeing and editorial functions:

EMBO Reports, Member of the Advisory Editorial Board, 2010-

FEBS Letters, Editor 2005-

FEBS OpenBio, Founding Editor 2011-

European Journal of Clinical Investigation, Member of the Editorial Board, 2009-

PPAR Research, Advisory Editor 2007-

Cell Death and Disease, Member of the Advisory Editorial Board (2010-)

Encyclopedia of Life Sciences, Biochemistry, Advisory Editorial Board Member (2010-)

Ad hoc reviewer for the following journals and organizations:

Journals:

Arthritis and Rheumatism
Atherosclerosis, Thrombosis and Vascular Biology
Biochemical Pharmacology
BBA
Biomolecular Concepts
Blood
BMC Medical Genomics
Chemistry and Biology
Circulation
Cell Death and Differentiation
Cellular Reprogramming
Diabetologia
Drug Discovery Today
EMBO Journal
EMBO Reports
European Journal of Immunology
Immunity
International Journal of Biochemistry and Molecular Biology
International Journal of Cancer
International Immunology
Journal of Biological Chemistry
Journal of Clinical Investigations
Journal of Immunology
Journal of Leukocyte Biology
Leukemia
Molecular and Cellular Biology
Molecular and Cellular Endocrinology
Molecular Endocrinology
Molecular Nutrition and Food Research
Molecular Pharmacology
Nature
Nature Medicine
Physiology
Proceedings of the National Academy of Sciences of the USA
PLoS ONE
Science

Science Signaling
WIREs Systems Biology and Medicine

Research funding organizations:

- Boehringer Ingelheim Funds (Germany)
- Commission of the European Union (evaluator, reviewer, rapporteur)
- The Wellcome Trust (UK)
- FWO Belgium
- European Molecular Biology Organization (EMBO)
- Netherlands Organization for Scientific Research (NWO) (The Netherlands)
- Hungarian Scientific Research Fund (OTKA)
- National Science Foundation (USA)
- Association for International Cancer Research (UK)
- Semmelweis University, Hungary
- Spanish Ministry of Health (Spain)
- Hungarian Academy of Sciences (Bolyai Fellowship Committee)
- Luxembourg National Research Fund (Luxembourg)
- Austrian Science Fund (FWF) (Austria)
- Swiss Federal Institute of Technology Zurich (ETH) (Switzerland)
- Science Foundation of Ireland
- National Institutes of Health (intramural research) (USA)

Ongoing research support

Hungarian Scientific Research Fund (OTKA) (K100196)

A novel mouse model for the study of PPAR γ deficiency
HUF 40,000,000 = EUR 150,000 (2012-2016)

FP7-REGPOT-2008-1/229920

MOLMEDREX Development of the Research Center for Molecular Medicine of the University of Debrecen, Medical and Health Science Center
970,000 EUR (2009-2012)

Hungarian Scientific Research Fund (OTKA) (NK72730) Decoding nuclear hormone

receptor activity using chromatin immunoprecipitation in human primary immune cells
HUF 77,110,000=268,000 EUR (2008-2012)

Completed:

International Research Scholarship of the **Howard Hughes Medical Institute** (USA)
“PPAR γ a lipid activated transcription factor at the crossroad of lipid metabolism and inflammation” # 55005621
(2006-2011) USD 500,000

International Research Scholarship of the **Howard Hughes Medical Institute** (USA)
“Role of a lipid activated transcription factor, PPAR γ in the innate responses of macrophages during pathogen infection” #5500524

(2005-2011) USD 500,000

TAMOP-4.2.2/08/1 IKUT

Stem cell and gene therapy research center at the University of Debrecen, Medical and Health Science Center

660,000,000 HUF= 2,300,000 EUR (2009 – 2011)

Wellcome Trust International Senior Research Fellowship

“Role of RXR heterodimers in macrophage differentiation and function” #074021

(2005-2010) GBP 450,000

European Union Framework Program 5 “Nutriceptors” Research Training Network No (2003-2006) EUR 164,000

“Practical Course on Advanced Methods on Gene Expression Analysis” Howard Hughes Medical Institute (USA)

(2005-2006) USD 150,000

International Research Scholarship of the Howard Hughes Medical Institute (USA)

#55000326

“Role of PPAR γ in normal monocyte-macrophage cell function and in diseases”

(2001-2005) USD 425,000

Biotechnology 2002 (Hungarian Ministry of Education)

“New molecular methods for the detection and monitoring of metabolic diseases: the role of nuclear receptors”

HUF 40 M (USD 200,000)

Young Investigator Award of The Human Frontier Science Program

“Crosstalk between PPAR and LXR in the control of lipid metabolism”

RGY021/2001-M (2001-2005) USD 275,000

Hungarian Scientific Research Fund (OTKA) T034434

“ Role of PPAR γ :RXR heterodimers in myeloid cell differentiation and function”

(2001-2004) HUF 16,4 M (USD 58,500)

European Union Framework Program 5 “EU-NUC-REC-NET” Research Training Network “European network to study the regulation of key metabolic processes by nuclear receptors” No HPRN-CT-2000-00088

(1999-2003) EUR 194,000

European Molecular Biology Organization (EMBO) Young Investigator Award #0246

(2001-2004)

EUR 85,000

Hungarian Higher Education Research Fund (FKFP) 0208/2001

“Role for PPAR γ and LXR in the biological effects of modified LDL”

(2001-2004) HUF 9 M (USD 31,500)

Fogarty International Research Collaboration Award (FIRCA) 5 RO3 TW 01146-02
“Chromatin activation in retinoid-induced apoptosis”
US collaborator: Dr Peter J.A. Davies (University of Texas-Houston, Medical School)
(1999-2003) USD 96,000

Royal Society (UK)
“Hormonal regulation of nuclear receptor co-repressor interactions”
(UK project leader: Dr John W.R.Schwabe MRC-LMB, Cambridge)
(2000-2001) GBP 10,000

Boehringer Ingelheim Research Award
“Molecular mechanisms of nuclear receptor action in health and disease”
(1999-2001) DEM 100,000

Egészségügyi Tudományos Tanács (ETT) (Hungarian Ministry of Health) T-07 254/99
“The role of the lipid activated transcription factor PPAR in the pathogenesis of
atherosclerosis”
(1999-2000) HUF 1,600,000

Leukemia Society of America Special Fellow Award (1998-2000) USD38,000/year

Postdoctoral Fellowship of the Howard Hughes Medical Institute (1997-1998, 12
months) USD 34,000

Postdoctoral Fellowship of the University of Texas-Houston, Medical School (1992, 6
months) USD 10,000

FASEB Travel Fellowship for the 1992 Summer Conference on Retinoids (USD 500)
Saxtons River, Vermont June 14-19 1992

Medical Student Grant (Pro Cultura Foundation) “Generation of tissue
transglutaminase null mutant cell lines with homolog recombination” USD 1,800
(1992)

Research Studentship (3 months) Dept. of Pharmacology, Univ. of Texas HSC at
Houston, USA 1989, (Soros Foundation, USD 1,500).

FEBS Youth Travel Fellowship FEBS International Summer School on the Molecular
Genetics of Differentiation, West-Berlin 1989 (DEM 1,800)

Research and development activity (collaborations with industry):

Ongoing:

SCHIZO-08 Biobank based biomarker discovery in schizophrenia
NKFP
840,000,000 HUF= 2,900,000 EUR (2008-2012)

Completed:

Biosystems International SAS, France

Comprehensive pilot and biomarker early validation studies for COPD GPCR target and biomarker discovery
(2005-2007) EUR165,000

Pfizer Global Research, Sandwich, UK

Discovery and validation of biomarkers and drug targets for COPD: a clinical genomics, proteomics and genetics collaboration with the University of Debrecen.
(2003-2007) EUR 340,000

Richter Gedeon Ltd, Hungary

0980699 Global gene expression analysis on rat liver
5,000,000 HUF (2006-2007)

Pfizer Global Research, Fresnes Laboratories, France

Identification of disease relevant target and biomarker candidates by comprehensive interrogation of the genome and proteome in COPD (2001-2003) USD 164,000

N-GENE Research and Development Ltd, Budapest, Hungary

Analysis of GBP-15 in PPAR regulated processes
(2004) 300,000 HUF

Biorex Rt., Hungary

Development of quantitative PCR assays
(2001-2002) HUF 2 M (USD 7,000)

Publications:

1991

1. Retinoic Acid Receptor Transcripts in Human Umbilical Vein Endothelial Cells
Fesus, L., **Nagy, L.**, Basilion, J. and Davies, P.J.A.
Biochem. Biophys. Res. Comm. 179:32-38 (1991)

1994

2. Tissue Transglutaminase: an effector in physiologic cell death
Nagy, L., Thomazy, V. and Davies, P.J.A.
Cancer Bulletin 46:136-140 (1994) INVITED REVIEW

1995

3. Activation of Retinoid X Receptors Induces Apoptosis in HL-60 Cell Lines
Nagy, L., Thomazy, V.A., Shipley, G.L., Fesus, L., Lamph, W., Heyman, R.A., Chandraratna, R.A.S. and Davies, P.J.A.
Molecular and Cellular Biology 15:3540-3551 (1995)

1996

4. Identification and Characterization of a Versatile Retinoid Response Element (Retinoic Acid Response Element/Retinoid X Receptor Response Element) in the Mouse Tissue Transglutaminase Gene Promoter
Nagy, L., Saydak, M.M., Shipley, N., Lu, S., Basilion, J.P., Yan, Z-H., Syka, P., Chandraratna, R.A.S., Stein, J.P., Heyman, R.A. and Davies, P.J.A.
Journal of Biological Chemistry 271 (8): 4355-4365 (1996)
5. Retinoid-regulated Expression of BCL-2 and Tissue Transglutaminase During Differentiation and Apoptosis of Human Myeloid Leukemia (HL-60) Cells
Nagy, L., Thomazy, V.A., Heyman, R.A., Chandraratna, R.A.S. and Davies, P.J.A.
Leukemia Research 20 (6): 499-505 (1996)
6. Retinoic acid induction of the tissue transglutaminase promoter is mediated by a novel response element
Yan, H- Z., Noonan, S., **Nagy, L.**, Davies, P.J.A. and Stein, J.P.
Molecular and Cellular Endocrinology 120: 203-212 (1996)

1997

7. Nuclear receptor repression mediated by a complex containing SMRT, mSin3A and histone deacetylase
Nagy, L., Kao, H-Y., Chakravarti, D., Lin, R.J., Hassig, C.A., Ayer, D.E., Schreiber, S.L. and Evans, R.M.
Cell 89 (3): 373-380 (1997)
8. Lack of induction of tissue transglutaminase but activation of the preexisting enzyme in c-myc-induced apoptosis of CHO cells
Balajthy, Z., Kedei, N., **Nagy, L.**, Davies P.J.A and Fesus., L.
Biochem. Biophys. Res. Comm. 236:280-284 (1997)

9. Nuclear receptor co-activator ACTR is a novel histone acetyltransferase and forms a multimeric activation complex with P/CAF and CBP/p300

Chen, H., Lin, R., Schiltz, L., Chakravarti, D., Nash, A., **Nagy, L.**, Privalsky, M.L., Nakatani, Y. and Evans, R.M.

Cell 90 (3): 569-580 (1997)

10. The promoter of the mouse tissue transglutaminase gene directs tissue-specific, retinoid regulated and apoptosis linked expression

Nagy, L., Thomazy, A.V., Saydak, M.M., Stein, J.P. and Davies, P.J.A.

Cell Death and Differentiation 4 (7): 534-547 (1997)

1998

11. TNF- α modulates expression of the tissue transglutaminase gene in liver cells

Kuncio, GS., Tsyganskaya, M., Zhu, J., Liu, S-L., **Nagy, L.**, Thomazy, VA., Davies, PJA. And Zern, MA

American Journal of Physiology 37(2): G240-252 (1998)

12. Retinoid-induced apoptosis in normal and neoplastic tissues

Nagy, L., Thomazy, V.A., Heyman, R.A and Davies, P.J.A.

Cell Death and Differentiation 5(1): 11-19 (1998) INVITED REVIEW

13. A transgenic mouse model for the study of apoptosis during limb development

Nagy, L., Thomazy, V. A, and Davies, P.J.A.

Cell Death and Differentiation 5(1): 126 (1998) INVITED REVIEW

14. Role of the histone deacetylase complex in Acute Promyelocytic Leukemia

Lin, J.R., **Nagy, L.**, Satoshi, I., Shao, W., Miller, W., and Evans, R.M.

Nature 391:811-814 (1998)

15. Oxidized LDL regulates macrophage gene expression through ligand activation of PPAR γ

Nagy, L., Tontonoz, P., Alvarez, JGA., Chen, H. and Evans, RM.

Cell 93(2): 229 -240 (1998)

16. PPAR γ promotes monocyte/macrophage differentiation and uptake of oxidized LDL

Tontonoz, P.*, **Nagy, L.***, Alvarez, JGA., Thomazy, VA. and Evans, RM.

Cell 93(2): 241 - 252 (1998)

* joint first authors

1999

17. Essential roles of retinoic acid signaling in interdigital apoptosis and control of BMP-7 expression in mouse autopods

Dupe, V., Ghyselinck, N.B., Thomazy, V., **Nagy, L.**, Davies, P.J.A., Chambon, P. and Mark, M.

Developmental Biology 208:30-43 (1999)

18. Regulation of macrophage gene expression by PPAR γ : implications for cardiovascular disease

Tontonoz, P and **Nagy, L.**

Current Opinion in Lipidology 10(6):485-490 (1999) INVITED REVIEW

19. Molecular mechanisms of nuclear hormone receptor action in health and disease
Nagy, L.

B.I.F. Futura (Boehringer Ingelheim Funds) 14:257-265 (1999) INVITED REVIEW

20. Mechanism of co-repressor binding and release from nuclear hormone receptors
Nagy, L., Kao H-Y., Love, JD, , Li, C., Banayo, E., Gooch, JT., Chatterjee, VKK,
Evans, RM and Schwabe, JWR

Genes and Development 13(24): 3209-3216 (1999)

2000

21. Transcriptional repression by nuclear receptors: mechanisms and role in disease
Love, J.D., Gooch, J.T., **Nagy, L.,** Chatterjee, V.K.K. And Schwabe, J.W.R

Biochem. Soc. Trans. 28: 390-396 (2000) INVITED REVIEW

22. A role for PPAR α in oxidized phospholipid induced synthesis of MCP-1 and IL-8 by endothelial cells

Lee, H, Shi, W, Tontonoz, P, Wang, S, Subbanagounder, G., Hedrick, L., Hama, S., Borromeo, C., Evans, RM., Berliner, JA and **Nagy, L.**

Circulation Research 87: 516-521 (2000)

23. Divergent signaling pathways regulate the promoter of tissue transglutaminase
Szegezdi, E, Szondy, Z, **Nagy, L.,** Nemes, Z., Friis, RR., Davies, PJA and Fesus, L.

Cell Death and Differentiation 7(12):1225-1233 (2000)

2001

24. PPAR γ dependent and independent effects on macrophage gene expression in lipid metabolism and inflammation

Chawla, A., Barak, Y., **Nagy, L.,** Liao, D. Tontonoz, P., and Evans, RM

Nature Medicine 7(1):48-53 (2001)

25. Tissue specific effects of RXR and PPAR-gamma ligands on metabolic gene expression in diabetic rodents

Ahuja, HS, Crombie, DL, Boehm, M, Leibowitz, MD, Heyman, RA, Depre, C, **Nagy, L.,** Tontonoz, P and Davies, P.J.A.

Molecular Pharmacology 59 (4) 765-773 (2001)

26. A PPAR γ -LXR-ABCA1 pathway in macrophages is involved in cholesterol efflux and atherogenesis

Chawla, A, Boisvert, W.A., Lee, C-H., Laffitte, B., Barak, Y., Joseph, S.B., **Nagy, L.,** Liao, D., Edwards, P.A., Curtiss, L.K., Evans, R.M., and Tontonoz, P.

Molecular Cell 7: 161-171 (2001)

2002

27. The structural basis for the specificity of retinoid-X-receptor selective agonists: new insights into the role of helix H12.

Love, J.D., Gooch, J.T., Benko, S., **Nagy, L.**, Chatterjee, V.K.K., Evans, R.M. and Schwabe, J.W.R.

Journal of Biological Chemistry 277(13):11385-11391 (2002)

28. Lipid sensors in atherosclerosis: The role of nuclear hormone receptors in disease progression

Szanto, A and **Nagy, L.**

B.I.F. Futura (Boehringer Ingelheim Funds) 17:129-136 (2002) INVITED REVIEW

2003

29. The retinoid X receptor and its ligands: versatile regulators of metabolic function, cell differentiation and cell death

Ahuja, A.S., Szanto, A., **Nagy, L.** and Davies, P.J.A.

Journal of Biological Regulators and Homeostatic Agents 17:29-45 (2003)

INVITED REVIEW

30. Molecular determinants of the balance between co-repressor and co-activator recruitment to the retinoic acid receptor

Benko S., Love, J.D., Beládi M., Schwabe, J.W.R. and **Nagy, L.**,

Journal of Biological Chemistry 278: 43797-43806 (2003)

2004

31. The mechanism of nuclear receptor molecular switch

Nagy, L. and Schwabe J.W.R.

Trends in Biochemical Sciences 29(6):317-324 (2004)

32. Activation of PPAR γ specifies a dendritic cell subtype capable of enhanced induction of iNKT cell expansion

Szatmari, I., Gogolak, P., Im, S. J., Dezso, B., Rajnavolgyi, E. and **Nagy, L.**

Immunity 21:95-106 (2004)

33. Transcriptional regulation of human CYP27 integrates retinoid, PPAR and LXR signaling

Szanto, A., Benko, S., Szatmari, I., Balint, L.B., Furtos, I., Rühl, R., Molnar, S., Csiba, L., Garuti, R., Calandra, S., Larsson, H., Diczfalusy, U. and **Nagy, L.**

Molecular and Cellular Biology 24(18):8154-8166 (2004)

34. Retinoid X Receptors: X-ploring their (patho)physiological functions

Szanto A., Nakar, V., Shen, Q., Uray, I.P., Davies, P.J.A. and **Nagy, L.**

Cell Death and Differentiation 11:S126-S143 (2004) INVITED REVIEW

2005

35. Retinoids potentiate PPAR γ action in differentiation, gene expression and lipid metabolic processes in developing myeloid cells

Szanto, A and **Nagy, L.**

Molecular Pharmacology 67(6):1935-1943 (2005)

36. Arginine methylation provides epigenetic transcription memory for retinoid-induced differentiation in myeloid cells

Balint L. B., Szanto, A., Madi, A., Bauer, U-M., Gabor, P., Benko, S., Puskás, L., Davies, P.J.A. and **Nagy, L.**,

Molecular and Cellular Biology 25:5648-5663 (2005)

37. Genome-wide localization of histone 4 arginine 3 methylation in a differentiation primed myeloid leukemia cell line.

Balint L. B., Gabor, P. and **Nagy, L.**

Immunobiology 210:141-152 (2005)

38. Flow cytometric detection of intracellular coagulation factor XIII-A: its utilization in the diagnosis and monitoring of monocytic acute myeloid leukemias.

Kappelmayer, J., Simon, A., Katona, E., Szanto, A., **Nagy, L.**, Kiss, A., Kiss, Cs. and Muszbek, L.

Thrombosis and Haemostasis 94(2):454-459 (2005)

39. Opposite expression of Factor XIII-A gene in classical and alternative activation of macrophages

Torocsik, D., Bardos, H., **Nagy, L.** and Adany, R.

Cellular and Molecular Life Sciences 62:2132-2139 (2005)

40. Atherosclerosis and lipid peroxidation (Editorial)

Nagy, L. and Spiteller, G.

Molecular Nutrition and Food Research 49: 989-991 (2005) EDITORIAL

41. Roles for lipid activated transcription factors

Nagy, L. and Szanto, A

Molecular Nutrition and Food Research 49:1072-1074 (2005) INVITED REVIEW

42. Accelerated recovery of 5-fluorouracil-damaged bone marrow after rosiglitazone treatment

Djazayeri, K., Szilvassy, Z., Peit, B., Nemeth, J., **Nagy, L.**, Kiss, A., Szabo, B. and Benko, I.,

European Journal of Pharmacology 522:122-129 (2005)

2006

43. SLAM/SLAM interactions inhibit CD40 induced production of inflammatory cytokine in monocyte derived dendritic cells

Réthy, B., Gogolák, P., Szatmári, I., Veres, A., **Nagy, L.**, Rajnavölgyi, E., Terhorst, C. and Lányi, A.

Blood 107: 2821-2829 (2006)

44. Selective modulators of PPAR activity as new therapeutic tools in metabolic diseases

Balint, L. B. and **Nagy, L.**

Endocrine, Metabolic and Immune Disorders-Drug Targets 6:33-43 (2006) INVITED REVIEW

45. Twenty years of nuclear receptors (Meeting report)

Nagy, L., Schüle, R., and Gronemeyer, H.

EMBO Reports 7(6): 579-584 (2006)

46. PPAR γ , a lipid activated transcription factor as a regulator of dendritic cell function

Szatmari, I., Rajnavolgyi, E. and **Nagy, L.**

Annals of the New York Academy of Sciences 1088: 207-218 (2006) INVITED REVIEW

47. ChIP on-beads: a robust flow-cytometry based method for the evaluation of chromatin immunoprecipitation results

Szekvolgyi, L., Balint L., B., Imre, L., Goda, K., Szabo, M., **Nagy, L.** and Szabo, G.,

Cytometry 69A:1086-1091 (2006)

48. At the crossroad of lipid metabolism and inflammation

Szeles, L., Torocsik, D. and **Nagy, L.**

B.I.F. Futura (Boehringer Ingelheim Funds) 21:79-85 (2006) INVITED REVIEW

49. PPAR γ regulated ABCG2 expression confers cytoprotection to human dendritic cells

Szatmari, I., Vámosi, G., Brazda, P., Balint L. B., Benko, S., Széles, L., Jeney, V., Özvegy-Laczka, G., Szántó, A., Barta, E., Balla, J., Sarkadi, B. and **Nagy, L.**

Journal of Biological Chemistry 281:23812-23823 (2006)

50. PPAR γ controls CD1d expression by turning on retinoic acid synthesis in developing human dendritic cells

Szatmari, I., Pap, A., Ruehl, R., Ma, J.X., Illarionov, P.A., Besra, G.S., Rajnavolgyi, E.,

Dezso, B. and **Nagy, L.**

Journal of Experimental Medicine 203:2351-2362 (2006)

51. Non-DNA binding, dominant-negative, human PPAR γ mutations cause lipodystrophic insulin resistance

Agostini, M., Schoenmakers, E., Mitchell, C.S., Szatmari, I. Savage, D., Smith, A.G.,

Rajanayagam, O., Semple, R., Luan, J., L Bath, R.K., Zalin, A.N, Labib, M., Kumar, S.,

Simpson, H., Blom, D., Marais, D., Schwabe, J.W.R., Baroso, I., Trembath, R., Wareham,

N., **Nagy, L.,** Gurnell, M., O'Rahilly, S. and Chatterjee, V.K.K.

Cell Metabolism 4:303-311 (2006)

2007

52. Differentiation of CD1a- and CD1a+ monocyte-derived dendritic cells is biased by lipid environment and PPAR γ

Gogolak, P., Rethi, B., Szatmari, I., Lanyi, A., Dezso, B., **Nagy, L.,** Rajnavolgyi, E.

Blood 109:643-652 (2007)

53. PPAR γ in immunity and inflammation: cell types and diseases

Széles, L., Töröcsik, D. and **Nagy, L.**

BBA- Molecular and Cell Biology of Lipids 1771:1014-1030 (2007) INVITED REVIEW

54. Ribonucleoprotein-masked nicks at 50 kbp intervals in the eukaryotic genomic DNA
Szekvolgyi, L, Rakosy, Z., Balint L., B., Kokai, E., Imre, L., Vereb, G., Bacso, Z., Goda, K.,
Balazs, M., Dombradi, V., **Nagy, L.** and Szabo, G
Proc. Natl. Acad. Sci. USA 104:14964-14969 (2007)

55. PPAR γ regulates the function of human dendritic cells primarily by altering lipid
metabolism
Szatmari, I., Töröcsik, D., Agostini, M., Nagy, T., Gurnell, M., Barta, E., Chatterjee,
K.K.V. and **Nagy, L.**
Blood 110:3271-3280 (2007)

56. Monoclonal antibody proteomics: discovery and prevalidation of chronic obstructive
pulmonary disease biomarkers in a single step
Csanky, E., Olivova, P., Rajnavolgyi, E., Hempel, W., Tardieu, N., Katalin, E. T., Jullien, A.,
Malderez-Bloes, C., Kuras, M., Duval, M. X., **Nagy, L.**, Scholtz, B., Hancock, W., Karger,
B., Guttman, A., Takacs, L.
Electrophoresis 28(23):4401-4407 (2007)

2008

57. Nuclear receptors, transcription factors linking lipid metabolism and immunity:
the case of PPAR γ
Varga, T. and **Nagy, L.**
European Journal of Clinical Investigations 38:695-707 (2008) INVITED REVIEW

58. Functional ABCG1 expression induces apoptosis in macrophages and other cell types
Seres, L., Cserepes, J., Elkind, N.B., Töröcsik, D., **Nagy, L.**, Sarkadi, B. and Homolya, L.
BBA-Biomembranes 1778(10): 2378-2387 (2008)

59. Nuclear receptor signaling in dendritic cells connects lipids, the genome and immune
function
Szatmari, I. and **Nagy, L.**
The EMBO Journal 27(18):2353-2362 (2008) INVITED REVIEW

60. Structural basis for the activation of PPAR γ by oxidized fatty acids
Itoh, T., Fairall, L. Amin, A., Inaba, Y., Szanto, A., Balint, L.B., **Nagy, L.** Yamamoto, K.
and Schwabe, J.W.R.
Nature Structural and Molecular Biology 15:924-931 (2008)

61. Endocannabinoids enhance lipid synthesis in human sebocytes via cannabinoid receptor-
2-mediated signaling
Dobrosi, N., Tóth, B.I., Kósa, A., Géczy, T, Nagy, G., Dózsa, A., **Nagy, L.**, Zouboulis, C.C.,
Paus, P., Kovács, L., and Bíró, T.
FASEB Journal 22:1-11 (2008)

62. The many faces of PPAR γ : anti-inflammatory by any means ?
Szanto, A and **Nagy, L**
Immunobiology 213:789-803 (2008)

63. Potential Therapeutic Use of PPAR γ -Programed Human Monocyte-Derived Dendritic Cells in Cancer Vaccination Therapy

Gyongyosi, A and **Nagy, L.**

PPAR Research ID:473804 (2008) INVITED REVIEW

2009

64. Transient Receptor Potential Vanilloid-1 signaling as a regulator of human sebaceous gland biology

Toth, B.I., Geczy, T, Griger, Z, Dozsa, A, Seltmann, H, Kovacs, L., **Nagy, L.**, Zouboulis, C.C., Paus, R and Biro, T.,

Journal of Investigative Dermatology 129:329-339 (2009)

65. 1,25-dihydroxyvitaminD3 is an autonomous regulator of the transcriptional changes leading to a tolerogenic dendritic cell phenotype

Széles, L., Keresztes, G., Töröcsik, D., Balajthy, Z., Krenács, L., Póliska, S., Steinmeyer, A., Zuegel, A., Pruenster, M., Rot, A. and **Nagy, L.**

Journal of Immunology 182(4):2074-2083 (2009)

66. Oxysterol signaling links cholesterol metabolism and inflammation via the Liver X Receptor in macrophages

Töröcsik, D, Szanto, A and **Nagy, L**

Molecular Aspects of Medicine 30: 134-152 (2009) INVITED REVIEW

67. Mycobacterium bovis Bacillus Calmette-Guerin infection induces TLR2-dependent PPAR γ expression and activation: functions in inflammation, lipid metabolism and pathogenesis

Almeida, P.E., Silva, A.R., Monteiro, C.M., Töröcsik, D., D'Ávila, H, Dezső B., Magalhães, K.G, Castro-Faria-Neto, H.C, **Nagy L.**, and Bozza, P.T.

Journal of Immunology 183:1337-1345 (2009)

2010

68. Activation of LXR sensitizes human dendritic cells to inflammatory stimuli

Töröcsik, D., Baráth, M., Benkő, S., Széles, L., Dezső, B., Póliska, S., Hegyi, Z., Homolya, L., Szatmári, I., Lányi A., and **Nagy, L.**

Journal of Immunology 184:5456-5465 (2010)

69. Peripheral blood gene expression patterns discriminate among chronic inflammatory diseases and healthy controls and identify novel targets

Mesko, B., Poliska, S., Szegedi, A., Szekanecz, Z., Palatka, K., Papp, M. and **Nagy, L.**

BMC Medical Genomics 3:15 (2010)

70. Activation of retinoic acid receptor signaling coordinates lineage commitment of spontaneously differentiating mouse embryonic stem cells in embryoid bodies

Simandi, Z., Balint L.B., Poliska, S., Ruhl, R and **Nagy, L.**

FEBS Letters 584:3123-3130 (2010)

71. Transcriptome profiling of genes regulated by RXR and its permissive and nonpermissive partners in differentiating monocyte-derived dendritic cells

Szeles, L., Poliska, S., Nagy, G., Szatmari, I., Szanto, A., Pap, A., Lindstedt, M., Santegoets, S., Ruehl, R., Dezso, B. and **Nagy, L.**,

Molecular Endocrinology 24(11):2218-2231 (2010)

72. Factor XIII-A is involved in the regulation of gene expression in alternatively activated human macrophages

Töröcsik, D., Szeles, L. Paragh Jr., G., Rakosy, Z., Bardos, H., **Nagy, L.**, Balazs, M., Inbal, A. and Ádány, R.

Thrombosis and Hemostasis 104:709-717 (2010)

73. STAT6 transcription factor is a facilitator of the nuclear receptor PPAR γ -regulated gene expression in macrophages and dendritic cells

Szanto, A., Balint L. B., Nagy, Z., Barta, E., Dezso, B., Pap, A., Szeles, L., Poliska, S., Oros, M., Evans, R.M., Barak, Y., Schwabe, J. and **Nagy, L.**

Immunity 33:699-712 (2010)

74. Analyses of association between PPARG and EPHX1 polymorphisms and susceptibility to COPD in a Hungarian cohort, a case-control study

Penyige, A., Poliska, S., Csanky, E., Scholtz, B., Dezso, B., Schmelczer, I., Kilty, I., Takacs, L. and **Nagy, L.**

BMC Medical Genetics 11:152 (2010)

2011

75. **Structural basis for the assembly of the SMRT/NCOR core transcriptional repression machinery**

Oberoi, J., Fairall, L., Watson, P., Yang, J-C., Czimmerer, Z., Kampmann, T., Goult, B., Greenwood, J., Gooch, J., Kallenberger, B., **Nagy, L.**, Neuhaus, D. and Schwabe, J.W.R.

Nature Structural and Molecular Biology 18: 177–184 (2011)

76. Gene expression profiles in peripheral blood for the diagnosis of autoimmune diseases

Mesko, B., Poliska, S. and **Nagy, L.**

Trends in Molecular Medicine 17:223-233 (2011) INVITED REVIEW

77. PPARs are a unique set of fatty acid regulated transcription factors controlling both lipid metabolism and inflammation

Varga, T., Czimmerer, Z. and **Nagy, L.**

BBA- Molecular Basis of Disease 1812: 1007–1022 (2011) INVITED REVIEW

78. COPD-specific gene expression signatures of alveolar macrophages and also peripheral blood monocytes overlap and correlate with lung function

Poliska, S., Csanky, E., Szanto, A., Szatmari, I., Mesko, B., Szeles, L., Dezso, B., Scholtz, B., Podani, J., Kilty, I., Takacs, L. and **Nagy, L.**

Respiration 81:499-510 (2011)

79. Live cell fluorescence correlation spectroscopy dissects the role of coregulator exchange and chromatin binding in retinoic acid receptor (RAR) mobility

Brazda, P., Szekeres, T., Bravics, B., Tóth, K., Vámosi, G., and **Nagy, L.**

Journal of Cell Science 124(21) 3631-3642 (2011)

80. PPAR γ -regulated Cathepsin D is required for lipid antigen presentation by dendritic cells

Nakken, B., Varga, T., Szatmari, I., Szeles, L., Gyongyosi, A., Illarionov, P., Dezso, B., Gogolak, P., Rajnavolgyi, E. and **Nagy, L.**

Journal of Immunology 187:240-247 (2011)

2012

81. Immunohistochemical detection of Carboxypeptidase-M in epitheloid granuloma-macrophages and foam cells has diagnostic utility, Carboxypeptidase-M is regulated by serum-lipids and CSFS in differentiating macrophages and dendritic cells

Tsakiris, I., Torocsik, D., Gyongyosi, A., Dozsa, A., Szatmari, A., Szanto, A., Soos, G., Nemes, Z., Igali, L., Marton, I., Takats, Z., **Nagy, L.**, and Dezso, B.

Laboratory Investigation (in press) (2011)

82. Association of Peroxisome Proliferator-activated Receptor Gamma Polymorphisms to Inflammatory Bowel Disease in a Hungarian cohort

Poliska, S., Penyige, A., Lakatos, P.L. the Hungarian IBD Study Group, Papp, M., Palatka, K., Lakatos, L., Molnar, T. and **Nagy, L.**

Inflammatory Bowel Disease (in press) (2011)

83. Decision-making by macrophages and dendritic cells using heterodimeric receptors to sense their lipid environment

Nagy, L., Szanto, A., Szatmari, I. and Szeles, L.

Physiological Reviews (INVITED REVIEW) (in press) (2012)

84. Peripheral blood gene expression and IgG glycosylation profiles as markers of tocilizumab treatment in rheumatoid arthritis

Mesko, B., Poliska, S., Szamosi, S., Szekanecz, Z., Podani, J., Varadi, C., Guttman, A. and **Nagy, L.**

Journal of Rheumatology (in press) (2012)

85. The triad of success in personalized medicine: pharmacogenomics, biotechnology and regulatory issues from a Central European perspective

Mesko, B., Zahuczky, **G Nagy, L**

New Biotechnology (INVITED REVIEW) (in press) (2012)

86. Ethanol increases phosphate-mediated mineralization and osteoblastic transformation of vascular smooth muscle cells

Oros, M., Zavaczki, E., Vadasz, C., Jeney, V., Tosaki, A., Lekli, I., Balla, G., **Nagy, L.** and Balla, J.

Journal of Cellular and Molecular Medicine 16(9):2219-2226 (2012) IF: 4,753

87. Identification of novel markers of human alternative macrophage activation including

potential endogenous PPAR γ ligand production mechanisms

Czimmerer, Z, Varga, T., Poliska, S., Nemet, I., Szanto, A. and **Nagy, L.**
Immunobiology 217: 1301-1314 (2012) IF:2.814

88. Would eating carrots protect your liver? A new role involving NKT cells for retinoic acid in hepatitis (Commentary)

Nagy, L., European Journal of Immunology 42:1677-1680 (2012) IF: 4.97

2013

89. Nuclear receptor mediated mechanisms of macrophage cholesterol metabolism

Nagy, Z., Czimmerer Z. and **Nagy, L.**

Molecular and Cellular Endocrinology 368:85-98 (2013) IF(2012): 4.039 INVITED REVIEW

90. A versatile method to design stem-loop primer-based quantitative PCR assays for detecting small regulatory RNA molecules

Czimmerer, Z., Hulvely, J., Simandi, Z., Varallyay, E., Havelda, Z., Szabo, E., Varga, A., Dezso, B., Balogh, M., Horvath, B., Balint Domokos, B., Torok, Z., **Nagy, L.**, and Balint, B.L.

PLOS One 8(1) e55168 (2013) IF (2012): 3.73

91. Genome wide mapping reveals PDE4B as an IL-2 induced STAT5 target gene in activated human PBMCs and lymphoid cancer cells

Nagy, Z.S, Ross, J, Rodriguez, G., Balint L. B., Szeles, L., **Nagy, L.** and Kirken, R.A.

PLOS One 8(2) e57326 (2013) IF (2012): 3.73

92. The role of lipid-activated nuclear receptors in shaping macrophage and dendritic cell function - from physiology to pathology

Kiss, M., Czimmerer, Z. and **Nagy, L.**

Journal of Allergy and Clinical Immunology (in press) (2013) IF(2012): 12,047 INVITED REVIEW

93. Pro-inflammatory cytokines negatively regulate PPAR γ mediated gene expression in both human and murine macrophages via multiple mechanisms

Nagy, Z., Czimmerer, Z. and **Nagy, L.**,

Immunobiology (in press) (2013) IF(2012):2.8

94. Peripheral blood derived gene panels predict response to infliximab in rheumatoid arthritis and Crohn's disease

Mesko, B., Poliska, S., Vánca, A., Szekanecz, Z., Palatka, K., Hollo, Z., Horvath, A., Steiner, L., Zahuczky, G., Podani, J., and **Nagy, L.**,

Genome Medicine 5:59 (2013) IF(2012): 3.9 HIGHLY ACCESSED

The paper is featured on the cover of the journal.

95. Pharmacogenetics and pharmacogenomics in rheumatology

Szekanecz, Z., Mesko, B., Poliska, S., Vancsa, A., Szamosi, S., Vegh, E., Simkovics, E., Laki, J., Kurko, J., Besenyei, T., Mikecz, K., Glant, T. and **Nagy, L.**

Immunological Research (in press) (2013) IF(2012): 2.963 INVITED REVIEW

96. Nagy, G., Daniel, B., Jonas, D., **Nagy, L.** and Barta, E.
A novel method to predict regulatory regions □ based on histone mark landscapes □ in macrophages

Immunobiology (in press) IF: 2.8

97. RDH10, RALDH2 and CRABP2 are required components of PPAR γ -directed all-trans-retinoic acid synthesis and signaling in human dendritic cells

Gyongyosi, A., Szatmari, I., Pap, A., Dezső, B., Pos, Z., Szeles, L., Varga, T. and **Nagy, L.**
Journal of Lipid Research (in press) IF(2012): 4.386

98. Hmgb1 can facilitate activation of the matrilin-1 gene promoter by Sox9 and L-Sox5/Sox6 in early steps of chondrogenesis

Szénási, T., Kénesi, E., Nagy, A., Molnár, A., Bálint, B., L., Zvara, A., Csabai, Z., Deák, F., Boros Oláh, B., Mátés, L., **Nagy, L.**, Puskás, G. L., Kiss, I.,

BBA- Gene Regulatory Mechanisms (in press) IF (2012):5.456

Total citations: 9809

h-index: 32

Patents:

1. Compounds useful for the modulation of processes mediated by nuclear hormone receptors, methods for the identification and use of such compounds
ISSUED ON 5/14/2002 AS U.S. PATENT NO.6,387,673

2. Use of RAR antagonists as modulators of hormone mediated processes
ISSUED ON 8/20/2002 AS U.S. PATENT NO. 6,436,993

3. Treatment of disease states, which result from neoplastic cell proliferation using PPAR- γ activators and compositions ISSUED ON 11/11/2003 U.S. PATENT NO.6,646,008

4. Methods for the use of inhibitors of co-repressors for the treatment of neoplastic diseases ISSUED ON 3/16/2004 US PATENT NO.6,706,762

5. *Novel use of PPAR- γ modulators and professional APCs manipulated by the same Hungarian Patent Application (May 14th, 2003) P0301358, International PCT/IB2004/050707 (pending) International application number: WO 2004/101776 A3*

6. *Method for conferring cytoprotection Hungarian Patent Application P0600497 (June 19th, 2006) International PCT/HU2007/000055*

Dissertations :

1. Programmed cell death in malignant cell lines in vitro

Thesis for the degree of M.D. (in Hungarian)

University Medical School of Debrecen, Debrecen, Hungary (1989)

2. Retinoid regulated gene expression during differentiation and apoptosis, Molecular analysis of the promoter of the mouse tissue transglutaminase gene

Thesis for the degree of Ph.D. in Medical Sciences (cell and molecular biology)

University Medical School of Debrecen, Debrecen, Hungary (1995)

3. Molecular mechanisms involved in nuclear hormone receptor action in health and disease

Thesis for the Degree of Doctor of the Hungarian Academy of Sciences

University of Debrecen, Debrecen, Hungary (2004)