



Curriculum Vitae

Personal information **Toivo Maimets**

Work experience

1. Employer: University of Tartu
 - Start date: 2008
 - End date: 2020
 - Position: Director, Institute of Molecular and Cell Biology,
 - Activities:
 - Country: Estonia
2. Employer: University of Tartu
 - Start date: 1992
 - End date:
 - Position: Professor of Cell Biology
 - Activities:
 - Country: Estonia
3. Employer: University of Tartu
 - Start date: 2001
 - End date: 2007
 - Position: Director, National Centre of Excellence for Gene and Environmental Technologies
 - Activities:
 - Country: Estonia
4. Employer: University of Newcastle
 - Start date: 2006
 - End date: 2007
 - Position: Visiting Professor
 - Activities:
 - Country: United Kingdom
5. Employer: Republic of Estonia
 - Start date: 2003
 - End date: 2005
 - Position: Minister of Education and Research
 - Activities:
 - Country: Estonia
6. Employer: University of Tartu
 - Start date: 1999
 - End date: 2003
 - Position: Director, Institute of Molecular and Cell Biology
 - Activities:
 - Country: Estonia
7. Employer: University of Tartu
 - Start date: 1995
 - End date: 1998
 - Position: Vice_rector for Research and Development,
 - Activities:
 - Country: Estonia
8. Employer: University of Tartu
 - Start date: 1993
 - End date: 1995
 - Position: Dean, Faculty of Biology and Geography
 - Activities:
 - Country: Estonia
9. Employer: Estonian Biocentre
 - Start date: 1986
 - End date: 1992
 - Position: Secretary for Science
 - Activities:
 - Country: Estonia
10. Employer: Marie Curie Cancer Research Institute
 - Start date: 1985
 - End date: 1989
 - Position: post_doc and Research Scientist
 - Activities:
 - Country: United Kingdom
11. Employer: University of Tartu
 - Start date: 1978
 - End date: 1986
 - Position: technician and research scientist
 - Activities:
 - Country: Estonia

Education and training

1. Subject: University of Tartu
 - Start date:

- End date: 1991
 - Qualification: Ph.D. (molecular biology)
 - Organisation:
 - Country: Estonia
2. Subject: M. Lomonosov Moscow University
- Start date:
 - End date: 1984
 - Qualification: kandidat nauk (molecular biology)
 - Organisation:
 - Country: Russian Federation
3. Subject: University of Tartu
- Start date:
 - End date: 1980
 - Qualification: diploma (genetics and cytology)
 - Organisation:
 - Country: Estonia

Additional information

Publications

1. Villems R., Koger A., Lind A., Maimets T., Metspalu E., Saarma M., Sarapuu T., Ustav M. Affinity chromatography of *Escherichia coli* ribosomal protein on the immobilized ribonucleic acids. Properties of the complexes. Biological implications of protein- nucleic acid interactions. (J.Augustyniak ed.) Elsevier/North Holland Biomedical Press, Amsterdam, N.Y., Oxford, Poznan. (1980) 91-99.
2. Metspalu E., Maimets T., Ustav M., Villems R. A quarternary complex consisting of two molecules of tRNA and ribosomal proteins L2 and L17. FEBS Lett. (1981) **132**, 105-108.
3. Sedman J., Maimets T., Ustav M., Villems R. The interaction of 5S RNA and its large fragments with ribosomal proteins. FEBS Lett. (1981) **136**, 251-254.
4. Maimets T.O., Ustav M.B., Villems R.L.-E., Saarma M.J., Lind. A.J. Binding of *Escherichia coli* 50 S ribosomal subunit proteins with two large 5S RNA fragments. Molecular Biology (USSR) (1981) **6**, 569-574.
5. Metspalu E., Ustav M., Maimets T., Villems R. The composition and properties of the *Escherichia coli* 5S RNA-protein complex. Eur. J. Biochem. (1982) **121**, 383-389.
6. Maimets T., Ustav M., Villems R. The role of protein L16 and its fragments in the peptidyltransferase activity of 50-S ribosomal subunits. Eur. J. Biochem. (1983) **135**, 127-130.
7. Remme J., Maimets T., Ustav M., Villems R. The interaction of ribosomal protein L16 and its fragments with tRNA. FEBS Lett. (1983) **153**, 267-269.
8. Maimets T., Remme J., Villems R. Ribosomal protein L16 binds to the 3'-end of transfer RNA. FEBS Lett. (1984) **166**, 53-56.
9. Maimets T.O., Ustav M. B., Remme J.L., Villems R.L.-E. *E.coli* ribosomal protein L16: its possible role in protein biosynthesis. Molecular Biology (USSR) (1984) **18**, 1597-1605.
10. Remme J., Metspalu E., Maimets T., Villems R. The properties of the complex between ribosomal protein L2 and tRNA. FEBS Lett. (1985) **190**, 275-278.
11. Maimets T.O., Remme J.L., Villems R.L.-E. Stimulation of peptidyltransferase activity of 50S subunits with alcohols. Molecular Biology (USSR) (1985) **3**, 617-622.
12. Saarma R.J., Maimets T.O., Anton R.G., Lind A.J. Studies on ras-family oncogenes in tumors of human brain. In: Actual problems of neurology and neurosurgery. Tartu University Press. (1986) 165-170.
13. Maimets T.O., Jenkins J.R. Modified oncoprotein p53 in HT1080 tumor cell line. Proc. USSR Acad. Sci. (1987) **296**, 757-759.
14. Sturzbecher H.-W., Brain R., Maimets T., Addison C., Rudge K., Jenkins J. Mouse p53 blocks SV40 DNA replication in vitro and downregulates T antigen DNA helicase activity. Oncogene (1988) **3**, 101-109.
15. Maimets T.O. Bacterial expression of human p53 oncogene as a fusion protein. Proc. USSR Acad. Sci. (1988) **302**, 1501-1503.
16. Jenkins J.R., Stürzbecher H.-W., Brain R., Grimaldi M., Maimets T., Rudge K., Court W., Addison C. Identification and analysis of human p53 mutants which are trans-dominant modulators of DNA replication in vivo. Cancer Cells (1989) **7**, 127-135.

17. Stürzbecher H.-W., Maimets T., Chumakov P., Brain R., Addison C., Simanis V., Rudge K., Philp R., Grimaldi M., Court W., Jenkins J. p53 interacts with p34cdc2 in mammalian cells: implications for cell cycle control and oncogenesis. *Oncogene* (1990) **5**, 795-801.
18. Wagner P., Simanis V., Maimets T., Keenan E., Addison C., Brain R., Grimaldi M., Sturzbecher H.-W., Jenkins J. A human tumour-derived mutant p53 protein induces a p34cdc2 reversible growth arrest in fission yeast. *Oncogene* (1991) **6**, 1539-1547.
19. Montesano R., Fuchs R., Vogel E., Bignami M., Maimets T. Environmental carcinogens and mutation spectra in p53 tumour suppressor gene and other critical genes. In: A Review of Research in Environmental Health & Chemical Safety in the STEP & ENVIRONMENT Research Programmes. *Ecosystems Research Report* (1995) **15**, 111 - 113.
20. Kristjuhan A., Maimets T. Protein P53 modulates transcription from a promoter containing its binding site in concentration-dependent manner. *Eur. J. Biochem.* (1995) **234**, 827 - 831.
21. Kristjuhan A., Jaks V., Rimm I., Tooming T., Maimets T. Oligomerization of p53 is necessary to inhibit its transcriptional transactivation property at high protein concentration. *Oncogene* (1998) **16**, 2413-2418.
22. Lepik D., Ilves I., Kristjuhan A., Maimets T., Ustav M. p53 protein is a suppressor of papillomavirus DNA amplificational replication. *J. Virol.* (1998) **72**, 6822-6831.
23. Jöers A., Kristjuhan A., Kadaja L., Maimets T. Tumour associated mutants of p53 can inhibit transcriptional activity of p53 without heterooligomerization. *Oncogene* (1998) **17**, 2351-2358.
24. Maimets T. Molekulaarne rakubioloogia. *Ilmamaa* 1999, 248 lk.
25. Kadaja L., Jesnowski R., Maimets T., Liebe S., Lohr M. Construction of recombinant retroviruses expressing mutated k-ras or mutated p53 genes. *Ann N Y Acad Sci* (1999) **880**, 371-373.
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27. Jaks V., Jöers A., Kristjuhan A., Maimets T. p53 protein accumulation in addition to its transcriptional activation is required for p53-dependent cell cycle arrest after treatment of cells with camptothecin. *Oncogene* (2001) **20**, 1212-1219.
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29. Lepik D., Jaks V., Värvi S., Kadaja L., Maimets T. Electroporation and carrier DNA cause p53 activation, cell cycle arrest and apoptosis. *Analytical Biochemistry* (2003), **318**, 52-59.
30. Kadaja L, Laos S, Maimets T. Overexpression of leukocyte marker CD43 causes activation of the tumor suppressor proteins p53 and ARF. *Oncogene* (2004) **23**, 2523-2530.
31. Joers A., Jaks V., Kase J., Maimets T. p53-dependent transcription can exhibit both on/off and graded response after genotoxic stress. *Oncogene* (2004) **23**,6175-6185.
32. [Pauklin S.](#), [Kristjuhan A.](#), [Maimets T.](#), [Jaks V.](#) ARF and ATM/ATR cooperate in p53-mediated apoptosis upon oncogenic stress. *Biochem Biophys Res Commun.* (2005) **334**, 386-394.
33. Maimets T. Kas siniste silmade, valgete õite ja haiguste geenid on olemas? (Do genes for blue eyes, white flowers and diseases exist? *in estonian*) *Akadeemia* (2005), **11**, 2344-2384.
34. Maimets T. Juhuslikkusest rakkude elus. *Horisont* (2006), **2**, 31-35.
35. Kallas A, Kuuse S, Maimets T, Pooga M. von Willebrand factor and transforming growth factor-beta modulate immune response against coagulation factor VIII in FVIII-deficient mice. *Thromb Res.* (2007) **120**, 911-919.
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37. Johansson H.J., El-Andaloussi S., Holm T., Mäe M., Jänes J., Maimets T. and Langel Ü. Characterization of a novel cytotoxic cell-penetrating peptide derived from p14ARF protein. *Molecular Therapy* (2008) **16**, 115-123.

38. Maimets T., Neganova I., Armstrong L. and Lako M. Activation of p53 by nutlin leads to rapid differentiation of human embryonic stem cells. *Oncogene* (2008) **27**, 5277-5287.
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40. Maimets T. Millal algab inimese elu? (When does human life begin? *in estonian*). *Akadeemia* (2008) **8**, 1671-1694.
41. Bonaccorsi A., Horvat M., Maimets T., Papon P. (2008). The Report of the Expert Group on the Future of Networks of Excellence. EU DG Research, Brussels, September 2008, 49 pp.
<http://ec.europa.eu/research/index.cfm?lg=en&pg=reports>
42. Monfret J., Fenger P., Kotilainen H., Maimets T., Luz Peñacoba M., Boekholt P.
Final Review of COST in the Sixth Framework Programme. EU DG Research Brussels, May 2007, 24 pp.
ftp://ftp.cordis.europa.eu/pub/coordination/docs/cost_final_review_en.pdf
43. Maimets, T.; Levy-Lahad, E.; Hu, Q.; Serour, G.; Stepke, F. (2009). Report of IBC on Human Cloning and International Governance. UNESCO, Paris: UNESCO
44. Schneider C.K., Salmikangas P., Jilma B., Flamion B., Racheva. Todorova L, Paphitou A., Haunerova I., Maimets T., Trouvin J.-H. , Flory E., Tsiftoglou A., Sarkadi B., Gudmundsson K., O'Donovan M., Migliaccio G., Ancans J., Mačiulaitis R., Robert J.-L., Samuel A., Ovelgönne J.H., Hystad M., Fal A.M., Silva Lima B., Moraru A.S., Turčáni P., Zorec R., Ruiz S., Åkerblom L., Narayanan G., Kent A., Bignami F., Dickson J.G., Niederwieser D., Maria-Angeles Figuerola-Santos M.-A., Reischl I.G., Beuneu C., Georgiev R., Vassiliou M., Pychova A., Clausen M., Methuen T., Lucas S., Schüssler-Lenz M., Kokkas V., Buzás Z., MacAleenan N., Galli M.C., Liné A., Gulbinovic J., Berchem G., Fraçzek M., Menezes-Ferreira M., Vilceanu N., Hrubíško M., Marinko P., Timón M., Cheng W., Crosbie G.A., Meade N., Lipucci di Paola M., VandenDriessche T., Ljungman P., D'Apote L., Oliver-Diaz O., Büttel I., Celis P.. Challenges with advanced therapy medicinal products and how to meet them. *Nature Reviews Drug Discovery* (2010) **9**, 195-201.
45. Annerberg, R.; Begg, I.; Acheson, H.; Borrás, S.; Hallen, A.; Maimets, T.; Mustonen, R.; Raffler, H.; Swings, J.-P.; Ylihonko, K. (2010). Interim evaluation of the Seventh Framework Programme. Report of the expert group. EU DG Research, Brussels: EU DG Research
46. Kallas A, Kuuse S, Maimets T, Pooga M. Naturally occurring CD4+ CD25+ cells in modulating immune response to administered coagulation factor VIII in factor VIII-deficient mice. *Haemophilia*. 2011 Jan;17(1):143-51.
47. Kallas, A., Pook, M., Maimets, M., Zimmermann, K., Maimets, T. (2011). Nocodazole treatment decreases expression of pluripotency markers Nanog and Oct4 in human embryonic stem cells. *PLoS One* 2011 Apr 29;6(4): e19114.
48. Maimets, T (2011). Kasvajate tüvirakud – kas mõtteviisi muutus? *Eesti Arst*, 90(10), 474 - 480.
49. Kadaja-Saarepuu, L.; Lõoke, M.; Balikova, A.; Maimets, T. (2012). Tumor suppressor p53 down-regulates expression of human leukocyte marker CD43 in non-hematopoietic tumor cells. *International Journal of Oncology*, 40(2), 567 - 576.
50. Balikova A, Jääger K, Viil J, Maimets T, Kadaja-Saarepuu L. Leukocyte marker CD43 promotes cell growth in co-operation with β -catenin in non-hematopoietic cancer cells. *Int J Oncol*. 2012 Jul;41(1):299-309.
51. Teino I, Kuuse S, Ingerpuu S, Maimets T, Tiido T. The aryl hydrocarbon receptor regulates mouse Fshr promoter activity through an e-box binding site. *Biol Reprod*. 2012 Mar 22;86(3):77.
52. Maimets, Toivo (2012). A Changing Scene. Public Service Review: UK Science and Technology, 6, 16 - 17.
53. Maimets, Toivo (2013). 2013. aasta Nobeli meditsiinipreemia rakusisesse transpordikorralduse mõistmise eest. *Eesti Arst*, 92(10), 552 - 553.
54. Maimets, Toivo (2012). Teaduse teed. Tartu: Ilmamaa, 272 lk.
55. Maimets, Toivo (2012). Nobeli meditsiini- ja keemiapreemia 2012. aasta laureaateide panus arstiteaduse arengusse. *Eesti Arst*, 91(10), 525 - 528.
56. Teino, Indrek; Matvere, Antti; Kuuse, Sulev; Ingerpuu, Sulev; Maimets, Toivo; Kristjuhan, Arnold; Tiido, Tarmo (2014). Transcriptional repression of the Ahr gene by LHCGR signaling in preovulatory granulosa cells is controlled by chromatin accessibility. *Molecular and Cellular Endocrinology*, 382, 292-301.

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58. Kallas A, Pook M, Trei A, Maimets T, (2014). SOX2 is regulated differently from NANOG and OCT4 in human embryonic stem cells during early differentiation initiated with sodium butyrate. *Stem Cells International* 298163.
59. Maimets, Toivo; Lõuk, Kristi (2014). Human cloning. Henk ten Have, Bert Gordijn (Eds.). *Compendium & Atlas of Global Bioethics* 699-718. Springer.
60. Kallas, Ade; Pook, Martin; Trei, Annika; Maimets, Toivo (2014). Assessment of the potential of CDK2 inhibitor NU6140 to influence the expression of pluripotency markers NANOG, OCT4 and SOX2 in 2i02Ep and H9 cells. *International Journal of Cell Biology*, 2014(Article ID 280638), 1 - 16.
61. Maimets, Toivo (2014). Induced pluripotency for the study of disease mechanisms and cell therapy. . Prof. Dr. Meral Özgüc (ed.). (Eds.). *Rare Diseases: Integrative PPPM Approach as the Medicine of the Future.* (159 - 173). Springer
62. Maimets, Toivo (2014). Kas peale "geeni" on olemas ka "epigeen"? *Akadeemia*, 26 (10), 1827–1846.
63. Maimets, T.; Tiido, T. (2014). Uudsed ravimid. *Eesti Arst*, 93 (11), 650–653.
64. Pook M., Teino I., Kallas A., Maimets T., Ingerpuu S., Jaks V. (2015). Changes in laminin expression pattern during early differentiation of human embryonic stem cells. *PLOS ONE* Sep 17;10(9): e0138346.
65. Maimets, Toivo (2015). Nobeli preemia vigade paranduse eest. *Eesti Arst*, 94 (11), 648–650.
66. Flory, E.; Gasparini, P.; Jekerle, V.; Palomäki, T.; Celis, P.; Boráň, T.; McBlane, J.W.; Borg, J.J.; Kyselovic, J.; Lipnik–Stangelj, M.; Maimets, T.; Menezes-Ferreira, M.; Pante, G.; Prilla, S.; Riekstina, U.; Schneider, C.K.; Tsiftoglou, A.; Salmikangas, P. (2015). Regulatory viewpoints on the development of advanced stem cell–based medicinal products in light of the first EU-approved stem cell product. *Cell & Gene Therapy Insights*, Sept 1 - 19.
67. Kuuse, Sulev; Maimets, Toivo (2016). Raku taaskasutussüsteem. *Horisont*, 6, 36–38.
68. Maimets, Toivo; Lõuk, Kristi (2016). Cloning: human. In: Henk Ten Have (Editor). *Encyclopedia of Global Bioethics* (581–588). Springer.978-3-319-09483-0_95.
69. Kallas-Kivi, Ade; Trei, Annika; Maimets, Toivo (2016). Lovastatin decreases the expression of CD133 and influences the differentiation potential of human embryonic stem cells. *Stem Cells International* Volume 2016 (2016), Article ID 1580701, 16 pages <http://dx.doi.org/10.1155/2016/1580701>
70. Maimets, Toivo (2016). Vananemise bioloogia. Raamatus: Gerontoloogia. Õpik kõrgkoolidele. Saks, Kai (toim). Tartu Ülikooli kirjastus, lk. 51-73.
71. Urgard E, Lorents A, Klaas M, Padari K, Viil J, Runnel T, Langel K, Kingo K, Tkaczyk E, Langel Ü, Maimets T, Jaks V, Pooga M, Rebane A. (2016). Pre-administration of PepFect6-microRNA-146a nanocomplexes inhibits inflammatory responses in keratinocytes and in a mouse model of irritant contact dermatitis. *J Control Release* 235:195-204.
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81. Teino, Indrek; Matvere, Antti; Pook, Martin; Varik, Inge; Pajusaar, Laura; Uudeku^u Il, **Keyt; Vaheer, Helen; Trei, Annika; Kristjuhan, Arnold; Org, Tõnis; Maimets, Toivo (2020). Impact of AHR Ligand TCDD on Human Embryonic Stem Cells and Early Differentiation. International Journal of Molecular Sciences, 21 (23).**

82. Hensen, Kati; Pook, Martin; Sikut, Anu; Org, Tõnis; Maimets, Toivo; Salumets, Andres; Kurg, Ants (2020). Utilising FGF2, IGF2 and FSH in serum-free protocol for long-term in vitro cultivation of primary human granulosa cells. *Molecular and Cellular Endocrinology*, 510, 110816–110816. DOI: 10.1016/j.mce.2020.110816.

83. Kuuse, Sulev; Maimets, Toivo (2020). Kellel on vaja eestikeelset rakubioloogia õpikut? Peep Nemvalts (Toim.). Eesti teaduskeel keelterikkas teadusmaailmas (168–187). Tallinn: TLÜ Kirjastus. (Acta Universitatis Tallinnensis. Humaniora.; 2).

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88. Bartkeviciene A, Jasukaitiene A, Zievyte I, Stukas D, Ivanauskiene S, Urbonienė D, Maimets T, Jaudzems K, Vitkauskienė A, Matthews J, Dambrauskas Z, Gulbinas A. Association Between AHR Expression and Immune Dysregulation in Pancreatic Ductal Adenocarcinoma: Insights from Comprehensive Immune Profiling of Peripheral Blood Mononuclear Cells. *Cancers* 2023, 15, 4639. <https://doi.org/10.3390/cancers15184639>

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91. Bobrovs R, Terentjeva S, Dambrauskas Z, Gulbinas A, Maimets T, Teino I, Jirgensons A, Matthews J, Jaudzems K. Discovery and optimisation of pyrazolo[1,5-a]pyrimidines as aryl hydrocarbon receptor antagonists. *RSC Medicinal Chemistry*, resubmitted.

92. Maimets, Toivo (2024). Kasvajatest ja bioloogia meinstriimist. *rmmts: Bioloogilise mõtte areng. (Schola biotheoretica L.)*, toim. K.Kull, L.Laanisto ja S. Ots. Tartu Ülikooli Kirjastus lk. 274-298.

93. Maimets, Toivo (2023). Kasvajate bioloogia. Kuuse, Sulev; Maimets, Toivo (Toim.). *Rakubioloogia. Õpik kõrgkoolidele.* (736–750). Tartu Ülikooli Kirjastus.

94. Maimets, Toivo (2023). Tüvirakud. Kuuse, Sulev; Maimets, Toivo (Toim.). *Rakubioloogia. Õpik kõrgkoolidele.* (705–723). Tartu: Tartu Ülikooli Kirjastus.

95. Maimets, Toivo (2023). Rakkude programmeeritud surm ehk apoptoos. Kuuse, Sulev; Maimets, Toivo (Toim.). *Rakubioloogia. Õpik kõrgkoolidele.* (724–735). Tartu Ülikooli Kirjastus.

96. Kuuse, Sulev; Maimets, Toivo (2023). *Rakubioloogia. Õpik kõrgkoolidele.* Tartu: Tartu Ülikooli Kirjastus. 1184 lk.

Projects

Memberships

Member, Research, Innovation and Science Policy Expert (RISE) High_Level Group, (European Commission, Brussels)
Member, European Research and Innovation Area Board (ERIAB, Brussels) Member, Estonian Research Council
Governing Board Estonian Biotechnology Association, Member of the Board European Medicines Agency, Committee
of Advanced Therapies (London), member European Molecular Biology Conference (Heidelberg), president(2010)
Tartu City Council, member Tartu University Centre of Ethics, Chairman of the Board (2009) Academia Europea,
Member European Association for Cancer Research, Member American Association for Cancer Research, Member

Other Relevant Information