Curriculum Vitae

Anastasia Malek, Md., Phd.

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EDUCATION/ TRAINING AND WORK EXPERIENCE

Institution and Location	Degree	Year(s)	Field of Study
St. Petersburg State Medical University, Russia	M.d.	2000	General Medicine
St. Petersburg Medical Academy of Postgraduate Studies, Russia	Surgery (certificate)	2003	Surgery/Oncology
Institute of Pathology, Charité, University Medicine Berlin, Germany	Visiting Physician	2003-2006	Molecular Tumour Pathology
Petrov Institute of Oncology St Petersburg, Russia	Research Fellowship, Ph.d.	2003-2006	Oncology/ Biochemistry
Philipps-University School of Medicine Marburg, Germany	PostDoc	2006-2008	Polymer-based transfection technologies
Oncology Institute of Southern Switzerland (IOSI) Bellinzona, Switzerland	Senior scientist	2008-2011	Experimental therapeutics
Petrov Institute of Oncology St Petersburg, Russia	Senior scientist	2012-2015	Tumour Endocrinology
Alivia / Absolute Health Management Zürich/London	Senior analyst	Since 2012	Cancer therapy
Oncosystem Ltd., St. Petersburg	Co-founder and Director	Since 2013	Cancer screening and diagnostic (exosomes/miRNA)
Petrov Institute of Oncology St Petersburg, Russia	Head of Tumour Endocrinology Lab	Since 2016	Differential diagnostic and personalized cancer therapy (exosomes/miRNA)

RESEARCH AREAS Cancer, metastasis, RNA interference, miRNA biology and function, exosomes as cancer diagnostics tool and mi/siRNA delivery system

GRANTS/PROJECTS 2002-2005: Ernst von Leyden-Stipendium for foreign researcher sponsored by Berlin Cancer Society (BKG), Germany

2006-2008: Nanohale Group, project „Polymeric nano-carriers for pulmonary

administration of therapeutics“
Funding Agency: German Research Foundation (DFG), Germany

2009-2010: Dendrimers as nanovectors for targeted siRNA delivery
Funding Agency: SNSF (Swiss National Science Foundation)

2009-1010: DRUDE Initiative, project “Nanovectors for drug delivery in oncology: a combined modeling/experimental study”
Funding Agency: DECS Canton Ticino, Switzerland

2010-2011: Small RNA-based transcriptional control of cancer genes
Funding Agency: SNSF (Swiss National Science Foundation)

2015-2017: Analysis and therapeutic blocking of Exosome-miRNA tumor-derived signaling in colorectal carcinoma.
Funding Agency: RFBR / DFG

2016-2018: Selective express tumor diagnostic with narrow band nanophotonic structures
Funding Agency: ERA.NET RUS PLUS/FASIE

PUBLICATIONS

Original articles

1. Самсонов Р., Коваленко И., Васильев Д., Цырлина Е., Дашян Г. , Шохат-Карвальо Х. , Карасик Д., Берштейн Л., **Малек А.** Стимуляция метастатической активности клеток рака молочной железы экзосомами плазмы.
   Российский биотерапевтический журнал – 2016

2. Колесников Н.Н., Титов С.Е., Веряскина Ю.А., Самсонов Р.Б., Владимирова А.В., Новик В.И., Артемьева А.С., Берштейн Л.М., Жимулев И.Ф., **Малек А.В.** Повышение точности и информативности ТАПБ опухолей молочной железы путем анализа микро-рнк в материале цитилогического мазка.
   Успехи современной онкологии – 2016

3. Roman Samsonov, Vladimir Burdakov, Tatiana Shtam, Zamira Radzhabova, Dmitry Vasilyev, Evgenia Tsyrlina, Sergey Titov, Michail Ivanov, Lev Berstein, Michael Filatov, Nikolay Kolesnikov, Hava Gil-Henn, **Anastasia Malek**. Plasma exosomal mir-21 and mir-181a differentiates follicular from papillary thyroid cancer.
   Tumor Biology – 2016

4. Самсонов РБ, Бурдаков ВС, Штам ТА, Раджабова ЗА, Васильев ДА, Цырлина ЕВ, Титов СЕ, Иванов МК, Филатов МВ, Берштейн ЛМ, Колесников НН, **Малек АВ.** Анализ комбинации микроРНК (миР-21, -181а и -146а) – метод дифференциальной диагностики узловых заболеваний щитовидной железы.
   Молекулярная Медицина – 2016

5. Самсонов РБ, Штам ТА, Бурдаков ВС, Глотов АС, Цырлина ЕВ, Носов АК, Евтушенко ВИ, Филатов МВ, **Малек АВ.** Выделение и анализ

экзосомальной микро-рнк из мочи: новый метод диагностики рака предстательной железы
Экспериментальная и клиническая урология (4) - 2015

6. Самсонов Р. Б., Бурдаков В. С., Ракитина Д. А., Нажмудинов Р. А., Васильев Д. А., Раджабова З. А., Филатов М. В., **Малек А. В**. Оценка диагностической роли микроРНК в составе экзосом циркулирующей крови при раке щитовидной железы.
Опухоли головы и шеи 5:(3) - 2015

7. Samsonov R, Shtam T, Burdakov V, Glotov A, Tsyrlina E, Berstein L, Nosov A, Evtushenko V, Filatov M, **Malek A.** Lectin-induced agglutination method of urinary exosomes isolation followed by mi-RNA analysis: Application for prostate cancer diagnostic.
Prostate. 2016 Jan; 76(1):68-79.

8. Civenni L, **Malek A,** Albino D, Napoli S, Di Marco S, Pinton S, Sarti M, Carbone G and Catapano CV, Silencing c-Myc Transcription with Promoter-Targeting Small Interfering RNA Inhibits Prostate Cancer Stem Cell Maintenance and Tumorigenicity.
Cancer Res. 2013 Nov 15;73(22):6816-27.

9. Longoni N, Sarti M, Albino D, Civenni G, **Malek A**, Ortelli E, Pinton S, Mello-Grand M, Ostano P, D'Ambrosio G, Sessa F, Garcia-Escudero R, Thalmann GN, Chiorino G, Catapano CV, Carbone GM. ETS Transcription Factor ESE1/ELF3 Orchestrates a Positive Feedback Loop That Constitutively Activates NF-κB and Drives Prostate Cancer Progression.
Cancer Res. 2013 Jul 15;73(14):4533-47.

10. **Malek A**, Gyorffy B, Catapano CV, Schäfer R. Selection of optimal combinations of target genes for therapeutic multi-gene silencing based on miRNA co-regulation.
Cancer Gene Ther. 2013 May;20(5):326-9.

11. **Malek A**, Núñez LE, Magistri M, Brambilla L, Jovic S, Carbone GM, Morís F, Catapano CV. Modulation of the activity of sp transcription factors by mithramycin analogues as a new strategy for treatment of metastatic prostate cancer.
PLoS One. 2012; doi: 10.1371

12. Günther M, Lipka J, **Malek A**, Gutsch D, Kreyling W, Aigner A. Polyethylenimines for RNAi-mediated gene targeting in vivo and siRNA delivery to the lung.
Eur J Pharm Biopharm. 2011; 77(3):438-49.

13. Pavan GM, Posocco P, Tagliabue A, Maly M, **Malek A**, Danani A, Ragg E, Catapano CV, Pricl S. PAMAM Dendrimers for siRNA Delivery: computational and Experimental Insights.
Chemistry. 2010; 16(26):7781-95.

14. Kunderfranco P, Mello-Grand M, Cangemi R, Pellini S, Mensah A, Albertini V, **Malek A**, Chiorino G, Catapano CV, Carbone GM. ETS transcription factors

control transcription of EZH2 and epigenetic silencing of the tumor suppressor gene Nkx3.1 in prostate cancer.
PLoS One. 2010; 5(5):e10547.

15. Previdi S, **Malek A**, Albertini V, Riva C, Capella C, Broggini M, Carbone GM, Rohr J, Catapano CV. Inhibition of Sp1-dependent transcription and antitumor activity of the new aureolic acid analogues mithramycin SDK and SK in human ovarian cancer xenografts.
Gynecol Oncol. 2010; 118(2):182-8.

16. **Malek A**, Catapano CV, Czubayko F, Aigner A. A sensitive polymerase chain reaction-based method for detection and quantification of metastasis in human xenograft mouse models.
Clin Exp Metastasis. 2010; 27(4):261-71.

17. **Malek A**, Merkel O, Fink L, Czubayko F, Kissel T and Aigner A In vivo tissue distribution and underlying mechanisms of various PEI(-PEG)/siRNA complexes.
Toxicol. Appl. Pharmacol. 2009; 236(1):97-108.

18. Posocco P, Pavan GM, Scocchi G, Handgraaf JW, **Malek A**, Maly M, Fermeglia M, Fraaije J GEM, Catapano CV, Danani A, and Pricl S. Base Invaders. Coupling Experiments and Multiscale Modeling of Dendrimer-Based siRNA Delivery Agents.
Advances in Science and Technology. 2008; 57: 154-159.

19. **Malek A**, Czubayko F, Aigner A. PEG grafting of polyethylenimine (PEI) exerts different effects on DNA transfection and siRNA-induced gene targeting efficacy
J Drug Target. 2008; 16(2):124-39.

20. Höbel S, Prinz R, **Malek A**, Urban-Klein B, Sitterberg J, Bakowsky U, Czubayko F, Aigner A. Polyethylenimine PEI F25-LMW allows the long-term storage of frozen complexes as fully active reagents in siRNA-mediated gene targeting and DNA delivery.
Eur J Pharm Biopharm. 2008; 70(1):29-41.

21. **Malek A**, Bakhidze E, Noske A, Sers C, Aigner A, Schäfer R, Tchernitsa O. HMGA2 gene is a promising target for ovarian cancer silencing therapy.
Int J Cancer. 2008; 123(2):348-356.

22. Lotz K, Kellner T, Heitmann M, Nazarenko I, Noske A, **Malek A**, Gontarewicz A, Schäfer R, Sers C. Suppression of the TIG3 tumor suppressor gene in human ovarian carcinomas is mediated via mitogen-activated kinase-dependent and -independent mechanisms.
Int J Cancer. 2005; 116(6):894-902.

23. **Malek A**, Bakhidze E. Role of genome research in the diagnosis and therapy of ovarian cancer.
Vopr Onkol. 2005; 51(2):182-6.

Review articles and scientific book chapters

1. Самсонов Р.Б., Кьези А., **Малек А.В.** Перспективы разработки методов диагностики и мониторинга онкологических заболеваний на основе анализа экзосом, секретируемых опухолевыми клетками. Российский биотерапевтический журнал 2015; 4: 9-18.

1. **Малек А.В.,** Берштейн Л.М. МикроРНК: половые гормоны, гормональный канцерогенез, гормоночувствительность опухолевой ткани Успехи современной онкологии 2:(1) 2015: 4-12.

2. **Малек А.В**., Берштейн Л.М., Филатов М.В., Беляев А.М. Система экзосомальных межклеточных коммуникаций и ее роль в процессе метастатической диссеминации**.** Вопросы онкологии 2014;60(4):429-36. Review. (Russian).

3. **Malek A**. Pulmonary metastasis in “Experimental metastasis: Modeling and Analysis” Springer, 2013 p.117-139. ISBN 978-94-007-7835-1

4. **Malek A.** Drug delivery approaches for ovarian cancer therapy in “Ovarian Cancer” Methods Mol Biol. 2013;1049:437-42. ISBN 978-1-62703-547-7

5. **Malek A.** In vivo and in vitro properties of ovarian cancer cells. in “Ovarian Cancer” Methods Mol Biol. 2013;1049:315-21. ISBN 978-1-62703-547-7

6. **Malek A.** Energy metabolism and changes in cellular composition in ovarian cancer in “Ovarian Cancer”, Methods Mol Biol. 2013;1049:233-8. ISBN 978-1-62703-547-7

7. **Malek A.** RNA networks in ovarian cancer in “Ovarian Cancer”, Methods Mol Biol. 2013;1049:111-7. ISBN 978-1-62703-547-7

8. **Malek A**, Tchernitsa O. Evaluation of targets for ovarian cancer gene silencing therapy: in vitro and in vivo approaches. in “RNA interference” edited by Wei-Ping Min. Methods Mol Biol. 2010; 623:423-36. ISBN 978-1-60761-588-0

9. **Malek A**, Schäfer R, Tchernitsa O. Target genes suitable for silencing approaches and protein product interference in ovarian epithelial cancer. Cancer Treat Rev. 2010; 36(1):8-15.

Scientific books edited

1. “Ovarian cancer” in Methods in Molecular Biology series, 2013, Humana Press - ISBN 978-1-62703-547-7

2. “Experimental metastasis: Modeling and Analysis” , 2013 Springer Science+Business Media B.V. - ISBN 978-94-007-7835-1

LANGUAGES Russian (native), English (fluent), Italian (fluent), germane (basic)