

Curriculum Vitae

Assoc. Prof. Priv.-Doz. Mag. Dr. rer. nat. Gerda Egger

Personal data

Maiden Name: Gerda Lagger
Date of Birth: 03.03.1970
Place of Birth: Villach, Austria
Nationality: Austria
Marital Status: married

Professional Address

Department of Pathology
Medical University of Vienna
Währinger Gürtel 18-20, 1090 Vienna
Phone: +43 (0)1 40400-22390
Email: gerda.egger@meduniwien.ac.at
Web: https://www.meduniwien.ac.at/web/index.php?id=688&res=gerda_egger
<http://www.applied-diagnostics.at/molecular-pathology/>
ORCID: 0000-0003-2489-155X

Main areas of research

My research interest lies in the field of medical epigenomics and cancer. Using different preclinical models, we are aiming to understand the causality of epigenetic aberrations in cancer, how epigenetic signatures are generated and how they can be reversed and remodeled. We have employed genome-scale analyses to define targets of differential DNA methylation in primary tumors to define epigenetic biomarkers and to discover epigenetic drivers of tumorigenesis. Furthermore, as a main objective of the recently established Ludwig Boltzmann Institute Applied Diagnostics we have developed different organotypic 3D tissue culture models from primary patient material and genetic mouse models, which we use to perform functional molecular analyses and drug testing. I envision that we will be able to generate a living biobank of these models, which can be used for diverse clinical and biological research questions. I believe that epigenetic biomarkers, which are already used for the routine classification of brain tumors, will be highly useful also for other tumor entities and a main goal will be to establish these biomarkers for minimal invasive testing in liquid biopsies.

Training and professional experience

2016-present	Deputy Director and Key Researcher, Ludwig Boltzmann Institute for Applied Diagnostics (LBI AD), (50% of time, in kind MedUni Vienna)
2014-present	Associate Professor, Clinical Institute of Pathology, Medical University of Vienna
2012	Habilitation in "Tumor Biology" at the Medical University of Vienna
2011-2014	Assistant Professor, Clinical Institute of Pathology, Medical University of Vienna
2009-present	Lecturer for Epigenetics at the University of Vienna
2009-2011	Senior Postdoc, Clinical Institute of Pathology, Medical University of Vienna

2008-2009	Maternity leave
2008	Postdoctoral fellow with Lukas Kenner, Department of Pathology, Medical University of Vienna
2007	Maternity leave
2002-2007	Postdoctoral fellow with Peter Jones, Norris Comprehensive Cancer Center and Hospital, University of Southern California, Los Angeles
1998-2001	Doctoral thesis, Department of Medical Biochemistry, University of Vienna, group Christian Seiser
1996-1997	Master Thesis, Department of Medical Biochemistry, University of Vienna, group Christian Seiser

Fellowships and Awards

2002	Amersham Biosciences Award, 2002
2002 – 2004	Max Kade Postdoctoral fellowship (OEAW)
2009-20011	Elise Richter Female postdoctoral carrier development fellowship (FWF)
2009-2011	Marie Curie FP7 International reintegration grant (EU, FP7)
2012	Otto Kraupp Award for medical „Habilitation“ in Austria (2nd place)

Skills and Experiences

Languages

German and English (fluent), Italian and French (basic)

Clinical Duties

2014-2016	Data analysis for prenatal screening for the Genetics Lab of the Department of Pathology, Medical University of Vienna
-----------	--

Training for Medical Teaching

2011	Medical Education an der Medizinischen Universität, MedUni Vienna
2011	Clinical Teaching (Faculty Development Program Stanford University), MedUni Vienna
2011	Medical English: Lectures and Presentations, MedUni Vienna
2011	Transfer of Learning: Lessons for Effective Teaching and Basic Science, MedUni Vienna
2011	Student Assessment: What works, What doesn't, MedUni Vienna
2011	Team-based Learning, MedUni Vienna
2011	The Art of Lecturing: Intensive course on scientific presentation, MedUni Vienna

Human Resources Development Seminars

2019	Leadership Profile, Assessment and Coaching, Munich Center for Leadership GmbH Berliner Str. 18a 80805 München
2017	§26 und §27-Projekte Teil 1: Bedeutung, rechtliche und personelle Rahmenbedingungen von Drittmittelprojekten, MedUni Vienna
2017	Leadership Workshop, LBG, Waidhofen/Ybbs, 31.01. – 02.02.2017
2014	Biometrie I: Beschreibung und Visualisierung medizinischer Daten, MedUni Vienna

2014	Biometrie II: Statistische Tests und Lebensdaueranalyse bei medizinischen Fragestellungen, MedUni Vienna
2013	Projektmanagement, MedUni Vienna
2012	Arbeitsrecht für NachwuchswissenschaftlerInnen, MedUni Vienna
2012	§§ 26 und 27-Projekte: Rahmenbedingungen, Grundlagen und Prozesse bei der Abwicklung von Drittmittelprojekten für allgemeines Personal, MedUni Vienna
2012	eLearning mit MOODLE, MedUni Vienna

Teaching

For details please refer to chapter “Teaching Summary”

Conferences

Invited talks (10 most important)

- AGRR 2019 Annual Meeting, Pamhagen, Austria, 12-13.09.2019, Plenary talk.
- Genetics, Personalized Genomics & Epigenetics Conference, Manama, Bahrain, March 17-18, 2018 (Keynote speaker)
- CCC-TRIO – Translational Research & Immuno-Oncology, 6. & 7. April 2018, Kahlenberg 2-3, 1190 Vienna
- Department Seminar, “Development of preclinical models and identification of tumor biomarkers”, Institute of Pharmacology and Toxicology, 12. June 2018, VetmedUni Vienna
- International Workshop on Epigenetics and microRNAs in Cancer, Keio University, Tokyo, Japan March 11, 2016
- 6th ERIA Meeting, “Chromatin modifiers and their impact on ALK dependent lymphomagenesis”, 25-26. June 2015, Vienna
- Epigenetics of Anaplastic large cell lymphoma- oncogene driven alterations in the tumor epigenome, 24. November 2014 CEITEC, Brno, CZ
- 5th ERIA Meeting, “The DNA methylation signature of primary ALK+ ALCL”, 20-21. June 2014, Monza, Italy
- Workshop on Epigenetics, Society and Gender, University of Vienna, June 22, 2012 (Keynote lecture)
- Cancer Epigenetics: DNA Methylation and Chromatin Remodeling, Cancer Symposium, Seoul National University College of Medicine, Korea, September 26, 2003

Poster presentations

- >30 posters at international and national meetings related to epigenetics and cancer research including Gordon Research Conferences, AACR meetings, Wellcome Trust Scientific meetings, Keystone Symposia, AMP global, ÖGMBT Annual meetings, LBG Meeting for Health Sciences.

Conference Organization

- 10th ERIA Meeting and ALKATRAS IP and Clinical Trials Workshop Vienna, July 3-5 2019 (Co-organizer and chair)
- 1st Donau Symposium on applied diagnostics for effective cancer treatment, Vienna, Austria September 28-30, 2016. (Organizing committee member and chair)

- 7th ERIA Meeting and ALKATRAS Epigenetics workshop Vienna, September 25-28 2016. (Co-organizer and speaker)
- 6th ÖGMBT Annual Meeting, Vienna 15-18. September 2014, Member of the Scientific Committee

Other relevant activities

- Journal review activities for Biochimie, PLoS One, Clinical Epigenetics, Biochemistry and Cell Biology, Recent Patents on anti-cancer drug discovery, Genes, Biomarker Research, Breast Care, Cancer Science, Cell Proliferation, Molecular Cancer, Tumor Biology, Pharmaceuticals, PeerJ, Journal of the American Society of Nephrology, Leukemia, Epigenomics, American Journal of Hematology, Cell Reports, Cell Death & Differentiation, npg Genomic Medicine, Molecular Medicine, Molecular Oncology, Cells, Theranostics
- Project reviews for the Dutch Science Fund (NWO), the Association for International Cancer Research (AICR) the INSERM, Prostate Cancer UK and the European Commission under the H2020 Marie Skłodowska-Curie Actions.
- Editorial board member for Cells (MDPI), Guest editor for Biochimie, Cells and Biomolecules

Professional Memberships

- ÖGMBT, Österreichische Gesellschaft für Molekulare Biowissenschaften und Biotechnologie (present member)
- ÖPPM, Austrian Platform for Personalized Medicine, (present member)
- AACR, American Association for Cancer Research (past member)

International cooperation partners

- Andrea Alimonti, Institute of Oncology Research, Bellinzona, Switzerland
- Suzanne Turner, University of Cambridge, United Kingdom
- Paola B Arimondo, CNRS-Pierre Fabre, Toulouse, France
- Zbynek Zdrahal, CEITEC, Central European Institute of Technology, Brno, Czech Republic
- Stephan Mathas, Charité Berlin, Germany
- Yoshimasa Saito, Keio University, Tokyo, Japan

National cooperation partners (current projects)

- Christian Seiser, MedUni Vienna
- Wilfried Ellmeier, Meduni Vienna
- Michael Bergmann, MedUni Vienna
- Shahrokh Shariat, MedUni Vienna
- Lukas Kenner, MedUni Vienna
- Helmut Dolznig, MedUni Vienna
- Jürgen Pollheimer, MedUni Vienna
- Christoph Bock, CeMM, Vienna
- Stefan Kubicek, CeMM, Vienna

- Andreas Weinhäusel, AIT, Vienna
- Markus Hartl, MFPL, Vienna
- Bon-Kyoung Koo, IMBA, Vienna

Publications

Peer reviewed publications

1. Ziegler LS, Gerner MC, Schmidt RLJ, Trapin D, Steinberger P, Pickl WF, Sillaber C, **Egger G**, Schwarzinger I, Schmetterer KG. Attenuation of canonical NF- κ B signaling maintains function and stability of human Treg. *FEBS J*. 2020 May 9. doi: 10.1111/febs.15361.
2. Zierfuss B, Weinhofer I, Kühl JS, Köhler W, Bley A, Zauner K, Binder J, Martinović K, Seiser C, Hertzberg C, Kemp S, **Egger G**, Leitner G, Bauer J, Wiesinger C, Kunze M, Forss-Petter S, Berger J. Vorinostat in the acute neuroinflammatory form of X-linked adrenoleukodystrophy. *Ann Clin Transl Neurol*. 2020 May 2. doi: 10.1002/acn3.51015. [Epub ahead of print]
3. Oberhuber M., Pecoraro M., Ruzs M., Oberhuber G., Wieselberg M., Haslinger P., Gurnhofer E., Pencik J., Wiebringhaus R., Schleder M., Weiss T., Schmeidl M., Haitel A, Brehme M., Wadsak W., Griss J., Mohr T., Hofer A., Jäger A., **Egger G**, Pollheimer J., Koellensperger G., Mann M., Hantusch B., Kenner L. STAT3-dependent systems-level analysis reveals PDK4 as an independent predictor of biochemical recurrence in prostate cancer. (2019). *Mol Syst Biol*. 2020 Apr;16(4):e9247. doi: 10.15252/msb.20199247.
4. Ducray SP., Natarajan K., Garland GD., Turner SD., **Egger G**. The Transcriptional Roles of ALK Fusion Proteins in Tumorigenesis. *Cancers (Basel)*. 2019 Jul 30;11(8). pii: E1074. doi: 10.3390/cancers11081074.
5. Balber, T., Benčurová, K., Kiefer, F. W., Kulterer, O. C., Klebermass, E.-M., **Egger, G.**, Tran, L., Wagner, K.-H., Viernstein, H., Pallitsch, K., Spreitzer, H., Hacker, M., Wadsak, W., Mitterhauser, M. & Philippe, C. In vitro Radiopharmaceutical Evidence for MCHR1 Binding Sites in Murine Brown Adipocytes. *Frontiers in Endocrinology* **10**, doi:10.3389/fendo.2019.00324 (2019).
6. Velicky, P., Meinhardt, G., Plessl, K., Vondra, S., Weiss, T., Haslinger, P., Lendl, T., Aumayr, K., Mairhofer, M., Zhu, X., Schutz, B., Hannibal, R. L., Lindau, R., Weil, B., Ernerudh, J., Neesen, J., **Egger, G.**, Mikula, M., Rohrl, C., Urban, A. E., Baker, J., Knofler, M. & Pollheimer, J. Genome amplification and cellular senescence are hallmarks of human placenta development. *PLoS Genet* **14**, e1007698, doi:10.1371/journal.pgen.1007698 (2018).
7. Lemberger, U. J., Fuchs, C. D., Schofer, C., Bileck, A., Gerner, C., Stojakovic, T., Taketo, M. M., Trauner, M., **Egger, G.** & Osterreicher, C. H. Hepatocyte specific expression of an oncogenic variant of beta-catenin results in lethal metabolic dysfunction in mice. *Oncotarget* **9**, 11243-11257, doi:10.18632/oncotarget.24346 (2018).
8. D'Andrea, D., Hassler, M. R., Abufaraj, M., Soria, F., Ertl, I. E., Ilijazi, D., Mari, A., Foerster, B., **Egger, G.** & Shariat, S. F. Progressive tissue biomarker profiling in non-muscle-invasive bladder cancer. *Expert Rev Anticancer Ther* **18**, 695-703, doi:10.1080/14737140.2018.1474104 (2018).

9. Lemberger, U. J., Fuchs, C. D., Karer, M., Haas, S., Stojakovic, T., Schofer, C., Marschall, H. U., Wrba, F., Taketo, M. M., **Egger, G.**, Trauner, M. & Osterreicher, C. H. Hepatocyte specific expression of an oncogenic variant of beta-catenin results in cholestatic liver disease. *Oncotarget* **7**, 86985-86998, doi:10.18632/oncotarget.13521 (2016).
10. Hassler, M. R., Pulverer, W., Lakshminarasimhan, R., Redl, E., Hacker, J., Garland, G. D., Merkel, O., Schiefer, A. I., Simonitsch-Klupp, I., Kenner, L., Weisenberger, D. J., Weinhaeusel, A., Turner, S. D. & **Egger, G.** Insights into the Pathogenesis of Anaplastic Large-Cell Lymphoma through Genome-wide DNA Methylation Profiling. *Cell Rep* **17**, 596-608, doi:10.1016/j.celrep.2016.09.018 (2016).
11. Pencik, J., Schleder, M., Gruber, W., Unger, C., Walker, S. M., Chalaris, A., Marie, I. J., Hassler, M. R., Javaheri, T., Aksoy, O., Blayney, J. K., Prutsch, N., Skucha, A., Herac, M., Kramer, O. H., Mazal, P., Grebien, F., **Egger, G.**, Poli, V., Mikulits, W., Eferl, R., Esterbauer, H., Kennedy, R., Fend, F., Scharpf, M., Braun, M., Perner, S., Levy, D. E., Malcolm, T., Turner, S. D., Haitel, A., Susani, M., Moazzami, A., Rose-John, S., Aberger, F., Merkel, O., Moriggl, R., Culig, Z., Dolznig, H. & Kenner, L. STAT3 regulated ARF expression suppresses prostate cancer metastasis. *Nat Commun* **6**, 7736, doi:10.1038/ncomms8736 (2015).
12. Merkel, O., Hamacher, F., Griessl, R., Grabner, L., Schiefer, A. I., Prutsch, N., Baer, C., **Egger, G.**, Schleder, M., Krenn, P. W., Hartmann, T. N., Simonitsch-Klupp, I., Plass, C., Staber, P. B., Moriggl, R., Turner, S. D., Greil, R. & Kenner, L. Oncogenic role of miR-155 in anaplastic large cell lymphoma lacking the t(2;5) translocation. *J Pathol* **236**, 445-456, doi:10.1002/path.4539 (2015).
13. Grabner, B., Schramek, D., Mueller, K. M., Moll, H. P., Svinka, J., Hoffmann, T., Bauer, E., Blaas, L., Hruschka, N., Zboray, K., Stiedl, P., Nivarthi, H., Bogner, E., Gruber, W., Mohr, T., Zwick, R. H., Kenner, L., Poli, V., Aberger, F., Stoiber, D., **Egger, G.**, Esterbauer, H., Zuber, J., Moriggl, R., Eferl, R., Gyorffy, B., Penninger, J. M., Popper, H. & Casanova, E. Disruption of STAT3 signalling promotes KRAS-induced lung tumorigenesis. *Nat Commun* **6**, 6285, doi:10.1038/ncomms7285 (2015).
14. Exner, R., Pulverer, W., Diem, M., Spaller, L., Woltering, L., Schreiber, M., Wolf, B., Sonntagbauer, M., Schroder, F., Stift, J., Wrba, F., Bergmann, M., Weinhausel, A. & **Egger, G.** Potential of DNA methylation in rectal cancer as diagnostic and prognostic biomarkers. *Br J Cancer* **113**, 1035-1045, doi:10.1038/bjc.2015.303 (2015).
15. Carlberg, L., Scheibelreiter, J., Hassler, M. R., Schloegelhofer, M., Schmoeger, M., Ludwig, B., Kasper, S., Aschauer, H., **Egger, G.** & Schosser, A. Brain-derived neurotrophic factor (BDNF)-epigenetic regulation in unipolar and bipolar affective disorder. *J Affect Disord* **168**, 399-406, doi:10.1016/j.jad.2014.07.022 (2014).
16. Wielscher, M., Liou, W., Pulverer, W., Singer, C. F., Rappaport-Fuerhauser, C., Kandioler, D., **Egger, G.** & Weinhausel, A. Cytosine 5-Hydroxymethylation of the LZTS1 Gene Is Reduced in Breast Cancer. *Transl Oncol* **6**, 715-721, doi:10.1593/tlo.13523 (2013).
17. Unger, C., Popescu, R., Giessrigl, B., Laimer, D., Heider, S., Seelinger, M., Diaz, R., Wallnofer, B., **Egger, G.**, Hassler, M., Knofler, M., Saleh, L., Sahin, E., Grusch, M., Fritzer-Szekeres, M., Dolznig, H., Frisch, R., Kenner, L., Kopp, B. & Krupitza, G. The dichloromethane extract of the ethnomedicinal plant *Neurolaena lobata* inhibits NPM/ALK expression which is causal for

- anaplastic large cell lymphomagenesis. *Int J Oncol* **42**, 338-348, doi:10.3892/ijo.2012.1690 (2013).
18. Hobaus, J., Hummel, D. M., Thiem, U., Fetahu, I. S., Aggarwal, A., Mullauer, L., Heller, G., **Egger, G.**, Mesteri, I., Baumgartner-Parzer, S. & Kallay, E. Increased copy-number and not DNA hypomethylation causes overexpression of the candidate proto-oncogene CYP24A1 in colorectal cancer. *Int J Cancer* **133**, 1380-1388, doi:10.1002/ijc.28143 (2013).
 19. Haemmerle, M., Keller, T., **Egger, G.**, Schachner, H., Steiner, C. W., Stokic, D., Neumayer, C., Brown, M. K., Kerjaschki, D. & Hantusch, B. Enhanced lymph vessel density, remodeling, and inflammation are reflected by gene expression signatures in dermal lymphatic endothelial cells in type 2 diabetes. *Diabetes* **62**, 2509-2529, doi:10.2337/db12-0844 (2013).
 20. Laimer, D., Dolznig, H., Kollmann, K., Vesely, P. W., Schleder, M., Merkel, O., Schiefer, A. I., Hassler, M. R., Heider, S., Amenitsch, L., Thallinger, C., Staber, P. B., Simonitsch-Klupp, I., Artaker, M., Lagger, S., Turner, S. D., Pileri, S., Piccaluga, P. P., Valent, P., Messana, K., Landra, I., Weichhart, T., Knapp, S., Shehata, M., Todaro, M., Sexl, V., Hofler, G., Piva, R., Medico, E., Ruggeri, B. A., Cheng, M., Eferl, R., **Egger, G.**, Penninger, J. M., Jaeger, U., Moriggl, R., Inghirami, G. & Kenner, L. PDGFR blockade is a rational and effective therapy for NPM-ALK-driven lymphomas. *Nat Med* **18**, 1699-1704, doi:10.1038/nm.2966 (2012).
 21. Hassler, M. R., Klisaroska, A., Kollmann, K., Steiner, I., Bilban, M., Schiefer, A. I., Sexl, V. & **Egger, G.** Antineoplastic activity of the DNA methyltransferase inhibitor 5-aza-2'-deoxycytidine in anaplastic large cell lymphoma. *Biochimie* **94**, 2297-2307, doi:10.1016/j.biochi.2012.05.029 (2012).
 22. **Egger, G.**, Wielscher, M., Pulverer, W., Kriegner, A. & Weinhausel, A. DNA methylation testing and marker validation using PCR: diagnostic applications. *Expert Rev Mol Diagn* **12**, 75-92, doi:10.1586/ERM.11.90 (2012).
 23. Warsch, W., Kollmann, K., Eckelhart, E., Fajmann, S., Cerny-Reiterer, S., Holbl, A., Gleixner, K. V., Dworzak, M., Mayerhofer, M., Hoermann, G., Herrmann, H., Sillaber, C., **Egger, G.**, Valent, P., Moriggl, R. & Sexl, V. High STAT5 levels mediate imatinib resistance and indicate disease progression in chronic myeloid leukemia. *Blood* **117**, 3409-3420, doi:10.1182/blood-2009-10-248211 (2011).
 24. Mueller, K. M., Kornfeld, J. W., Friedbichler, K., Blaas, L., **Egger, G.**, Esterbauer, H., Hasselblatt, P., Schleder, M., Haindl, S., Wagner, K. U., Engblom, D., Haemmerle, G., Kratky, D., Sexl, V., Kenner, L., Kozlov, A. V., Terracciano, L., Zechner, R., Schuetz, G., Casanova, E., Pospisilik, J. A., Heim, M. H. & Moriggl, R. Impairment of hepatic growth hormone and glucocorticoid receptor signaling causes steatosis and hepatocellular carcinoma in mice. *Hepatology* **54**, 1398-1409, doi:10.1002/hep.24509 (2011).
 25. Zupkovitz, G., Grausenburger, R., Brunmeir, R., Senese, S., Tischler, J., Jurkin, J., Rembold, M., Meunier, D., **Egger, G.**, Lagger, S., Chiocca, S., Propst, F., Weitzer, G. & Seiser, C. The cyclin-dependent kinase inhibitor p21 is a crucial target for histone deacetylase 1 as a regulator of cellular proliferation. *Mol Cell Biol* **30**, 1171-1181, doi:10.1128/MCB.01500-09 (2010).
 26. Merkel, O., Hamacher, F., Laimer, D., Sift, E., Trajanoski, Z., Scheideler, M., **Egger, G.**, Hassler, M. R., Thallinger, C., Schmatz, A., Turner, S. D., Greil, R. & Kenner, L. Identification of

- differential and functionally active miRNAs in both anaplastic lymphoma kinase (ALK)+ and ALK- anaplastic large-cell lymphoma. *Proc Natl Acad Sci U S A* **107**, 16228-16233, doi:10.1073/pnas.1009719107 (2010).
27. Lagger, S., Meunier, D., Mikula, M., Brunmeir, R., Schleder, M., Artaker, M., Pusch, O., **Egger, G.**, Hagelkruys, A., Mikulits, W., Weitzer, G., Muellner, E. W., Susani, M., Kenner, L. & Seiser, C. Crucial function of histone deacetylase 1 for differentiation of teratomas in mice and humans. *EMBO J* **29**, 3992-4007, doi:10.1038/emboj.2010.264 (2010).
 28. Brunmeir, R., Lagger, S., Simboeck, E., Sawicka, A., **Egger, G.**, Hagelkruys, A., Zhang, Y., Matthias, P., Miller, W. J. & Seiser, C. Epigenetic regulation of a murine retrotransposon by a dual histone modification mark. *PLoS Genet* **6**, e1000927, doi:10.1371/journal.pgen.1000927 (2010).
 29. Blaas, L., Kornfeld, J. W., Schramek, D., Musteanu, M., Zollner, G., Gumhold, J., van Zijl, F., Schneller, D., Esterbauer, H., **Egger, G.**, Mair, M., Kenner, L., Mikulits, W., Eferl, R., Moriggl, R., Penninger, J., Trauner, M. & Casanova, E. Disruption of the growth hormone--signal transducer and activator of transcription 5--insulinlike growth factor 1 axis severely aggravates liver fibrosis in a mouse model of cholestasis. *Hepatology* **51**, 1319-1326, doi:10.1002/hep.23469 (2010).
 30. Saito, Y., Friedman, J. M., Chihara, Y., **Egger, G.**, Chuang, J. C. & Liang, G. Epigenetic therapy upregulates the tumor suppressor microRNA-126 and its host gene EGFL7 in human cancer cells. *Biochem Biophys Res Commun* **379**, 726-731, doi:10.1016/j.bbrc.2008.12.098 (2009).
 31. Pfliegerl, P., Vesely, P., Hantusch, B., Schleder, M., Zenz, R., Janig, E., Steiner, G., Meixner, A., Petzelbauer, P., Wolf, P., Soleiman, A., **Egger, G.**, Moriggl, R., Kishimoto, T., Wagner, E. F. & Kenner, L. Epidermal loss of JunB leads to a SLE phenotype due to hyper IL-6 signaling. *Proc Natl Acad Sci U S A* **106**, 20423-20428, doi:10.1073/pnas.0910371106 (2009).
 32. Jeong, S., Liang, G., Sharma, S., Lin, J. C., Choi, S. H., Han, H., Yoo, C. B., **Egger, G.**, Yang, A. S. & Jones, P. A. Selective anchoring of DNA methyltransferases 3A and 3B to nucleosomes containing methylated DNA. *Mol Cell Biol* **29**, 5366-5376, doi:10.1128/MCB.00484-09 (2009).
 33. Yoo, C. B., Chuang, J. C., Byun, H. M., **Egger, G.**, Yang, A. S., Dubeau, L., Long, T., Laird, P. W., Marquez, V. E. & Jones, P. A. Long-term epigenetic therapy with oral zebularine has minimal side effects and prevents intestinal tumors in mice. *Cancer Prev Res (Phila)* **1**, 233-240, doi:10.1158/1940-6207.CAPR-07-0008 (2008).
 34. Gal-Yam, E. N*, **Egger, G.***, Iniguez, L., Holster, H., Einarsson, S., Zhang, X., Lin, J. C., Liang, G., Jones, P. A. & Tanay, A. Frequent switching of Polycomb repressive marks and DNA hypermethylation in the PC3 prostate cancer cell line. *Proc Natl Acad Sci U S A* **105**, 12979-12984, doi:10.1073/pnas.0806437105 (2008). (*Co-first author).
 35. Yoo, C. B., Jeong, S., **Egger, G.**, Liang, G., Phiasivongsa, P., Tang, C., Redkar, S. & Jones, P. A. Delivery of 5-aza-2'-deoxycytidine to cells using oligodeoxynucleotides. *Cancer Res* **67**, 6400-6408, doi:10.1158/0008-5472.CAN-07-0251 (2007).
 36. Lin, J. C., Jeong, S., Liang, G., Takai, D., Fatemi, M., Tsai, Y. C., **Egger, G.**, Gal-Yam, E. N. & Jones, P. A. Role of nucleosomal occupancy in the epigenetic silencing of the MLH1 CpG island. *Cancer Cell* **12**, 432-444, doi:10.1016/j.ccr.2007.10.014 (2007).

37. **Egger, G.**, Aparicio, A. M., Escobar, S. G. & Jones, P. A. Inhibition of histone deacetylation does not block resilencing of p16 after 5-aza-2'-deoxycytidine treatment. *Cancer Res* **67**, 346-353, doi:10.1158/0008-5472.CAN-06-2845 (2007).
38. Zupkovitz, G., Tischler, J., Posch, M., Sadzak, I., Ramsauer, K., **Egger, G.**, Grausenburger, R., Schweifer, N., Chiocca, S., Decker, T. & Seiser, C. Negative and positive regulation of gene expression by mouse histone deacetylase 1. *Mol Cell Biol* **26**, 7913-7928, doi:10.1128/MCB.01220-06 (2006).
39. Saito, Y., Liang, G*, **Egger, G.***, Friedman, J. M., Chuang, J. C., Coetzee, G. A. & Jones, P. A. Specific activation of microRNA-127 with downregulation of the proto-oncogene BCL6 by chromatin-modifying drugs in human cancer cells. *Cancer Cell* **9**, 435-443, doi:10.1016/j.ccr.2006.04.020 (2006).(*equal contribution)
40. Gal-Yam, E. N., Jeong, S., Tanay, A., **Egger, G.**, Lee, A. S. & Jones, P. A. Constitutive nucleosome depletion and ordered factor assembly at the GRP78 promoter revealed by single molecule footprinting. *PLoS Genet* **2**, e160, doi:10.1371/journal.pgen.0020160 (2006).
41. **Egger, G.**, Jeong, S., Escobar, S. G., Cortez, C. C., Li, T. W., Saito, Y., Yoo, C. B., Jones, P. A. & Liang, G. Identification of DNMT1 (DNA methyltransferase 1) hypomorphs in somatic knockouts suggests an essential role for DNMT1 in cell survival. *Proc Natl Acad Sci U S A* **103**, 14080-14085, doi:10.1073/pnas.0604602103 (2006).
42. Lauss, M., Stary, M., Tischler, J., **Egger, G.**, Puz, S., Bader-Allmer, A., Seiser, C. & Weitzer, G. Single inner cell masses yield embryonic stem cell lines differing in *lifr* expression and their developmental potential. *Biochem Biophys Res Commun* **331**, 1577-1586, doi:10.1016/j.bbrc.2005.04.068 (2005).
43. Fatemi, M., Pao, M. M., Jeong, S., Gal-Yam, E. N., **Egger, G.**, Weisenberger, D. J. & Jones, P. A. Footprinting of mammalian promoters: use of a CpG DNA methyltransferase revealing nucleosome positions at a single molecule level. *Nucleic Acids Res* **33**, e176, doi:10.1093/nar/gni180 (2005).
44. Liang, G., Lin, J. C., Wei, V., Yoo, C., Cheng, J. C., Nguyen, C. T., Weisenberger, D. J., **Egger, G.**, Takai, D., Gonzales, F. A. & Jones, P. A. Distinct localization of histone H3 acetylation and H3-K4 methylation to the transcription start sites in the human genome. *Proc Natl Acad Sci U S A* **101**, 7357-7362, doi:10.1073/pnas.0401866101 (2004).
45. **Egger, G.**, Liang, G., Aparicio, A. & Jones, P. A. Epigenetics in human disease and prospects for epigenetic therapy. *Nature* **429**, 457-463, doi:10.1038/nature02625 (2004).
46. **Lagger, G.**, Doetzlhofer, A., Schuettengruber, B., Haidweger, E., Simboeck, E., Tischler, J., Chiocca, S., Suske, G., Rotheneder, H., Wintersberger, E. & Seiser, C. The tumor suppressor p53 and histone deacetylase 1 are antagonistic regulators of the cyclin-dependent kinase inhibitor p21/WAF1/CIP1 gene. *Mol Cell Biol* **23**, 2669-2679, doi:10.1128/mcb.23.8.2669-2679.2003 (2003).
47. **Lagger, G.**, O'Carroll, D., Rembold, M., Khier, H., Tischler, J., Weitzer, G., Schuettengruber, B., Hauser, C., Brunmeir, R., Jenuwein, T. & Seiser, C. Essential function of histone deacetylase 1 in proliferation control and CDK inhibitor repression. *EMBO J* **21**, 2672-2681, doi:10.1093/emboj/21.11.2672 (2002).

48. Hauser, C., Schuettengruber, B., Bartl, S., **Lagger, G.** & Seiser, C. Activation of the mouse histone deacetylase 1 gene by cooperative histone phosphorylation and acetylation. *Mol Cell Biol* **22**, 7820-7830, doi:10.1128/mcb.22.22.7820-7830.2002 (2002).
49. Doetzlhofer, A., Rotheneder, H., **Lagger, G.**, Koranda, M., Kurtev, V., Brosch, G., Wintersberger, E. & Seiser, C. Histone deacetylase 1 can repress transcription by binding to Sp1. *Mol Cell Biol* **19**, 5504-5511, doi:10.1128/mcb.19.8.5504 (1999).
50. Taplick, J., Kurtev, V., **Lagger, G.** & Seiser, C. Histone H4 acetylation during interleukin-2 stimulation of mouse T cells. *FEBS Lett* **436**, 349-352 (1998).
51. Bauer, A., Mikulits, W., **Lagger, G.**, Stengl, G., Brosch, G. & Beug, H. The thyroid hormone receptor functions as a ligand-operated developmental switch between proliferation and differentiation of erythroid progenitors. *EMBO J* **17**, 4291-4303, doi:10.1093/emboj/17.15.4291 (1998).
52. Bartl, S., Taplick, J., **Lagger, G.**, Khier, H., Kuchler, K. & Seiser, C. Identification of mouse histone deacetylase 1 as a growth factor-inducible gene. *Mol Cell Biol* **17**, 5033-5043, doi:10.1128/mcb.17.9.5033 (1997).

Non-peer reviewed publications

1. Lim, M. S., Beyer, T., Babayan, A., Bergmann, M., Brehme, M., Buyx, A., Czernin, J., **Egger, G.**, Elenitoba-Johnson, K. S. J., Guckel, B., Jacan, A., Haslacher, H., Hicks, R. J., Kenner, L., Langanke, M., Mitterhauser, M., Pichler, B. J., Salih, H. R., Schibli, R., Schulz, S., Simecek, J., Simon, J., Soares, M. O., Stelzl, U., Wadsak, W., Zatloukal, K., Zeitlinger, M. & Hacker, M. Advancing Biomarker Development Through Convergent Engagement: Summary Report of the 2nd International Danube Symposium on Biomarker Development, Molecular Imaging and Applied Diagnostics; March 14-16, 2018; Vienna, Austria. *Mol Imaging Biol*, doi:10.1007/s11307-019-01361-2 (2019).
2. **Egger, G.** Epigenetic biomarkers in cancer. *ESMO Open* **3**, e000416, doi:10.1136/esmoopen-2018-000416 (2018).
3. **Egger, G.** Epigenetische Biomarker bei Krebserkrankungen, *Jatros Hämatologie & Onkologie*, Ausgabe 5/2018
4. **Egger, G.** & Turner, S. D. New avenues for targeted therapies and biomarkers in anaplastic large cell lymphoma. *Epigenomics* **9**, 97-100, doi:10.2217/epi-2016-0159 (2017).
5. **Egger, G.** Liquid Biopsy in der Tumordiagnostik, *Management und Krankenhaus*, Supplement 31.09.2017
6. Hacker, M., **Egger, G.**, Beyer, T. Why we need to move away from taking pictures. 9.6.2016. Copyright © 2016 AuntMinnieEurope.com
7. **Egger, G.** Krebs legt genetischen Hebel um. Expertenbericht. *Ärzte Woche*, Springer, Ausgabe: 37/2015
8. Schiefer, A. I., Vesely, P., Hassler, M. R., **Egger, G.** & Kenner, L. The role of AP-1 and epigenetics in ALCL. *Front Biosci (Schol Ed)* **7**, 226-235 (2015).
9. Birner, P., **Egger, G.**, Merkel, O. & Kenner, L. JunB and PTEN in prostate cancer: 'loss is nothing else than change'. *Cell Death Differ* **22**, 522-523, doi:10.1038/cdd.2014.232 (2015).

10. Noehammer, C., Pulverer, W., Hassler, M. R., Hofner, M., Wielscher, M., Vierlinger, K., Liloglou, T., McCarthy, D., Jensen, T. J., Nygren, A., Gohlke, H., Trooskens, G., Braspenning, M., Van Criekinge, W., **Egger, G.** & Weinhaeusel, A. Strategies for validation and testing of DNA methylation biomarkers. *Epigenomics* **6**, 603-622, doi:10.2217/epi.14.43 (2014).
11. Hassler, M. R., Schiefer, A. I. & **Egger, G.** Combating the epigenome: epigenetic drugs against non-Hodgkin's lymphoma. *Epigenomics* **5**, 397-415, doi:10.2217/epi.13.39 (2013).
12. Arimondo, P. B., **Egger, G.** & Tost, J. Epigenetics. *Biochimie* **94**, 2191-2192, doi:10.1016/j.biochi.2012.09.003 (2012).
13. Hassler, M. R. & **Egger, G.** Epigenomics of cancer - emerging new concepts. *Biochimie* **94**, 2219-2230, doi:10.1016/j.biochi.2012.05.007 (2012).
14. Gal-Yam, E. N., Saito, Y., **Egger, G.** & Jones, P. A. Cancer epigenetics: modifications, screening, and therapy. *Annu Rev Med* **59**, 267-280, doi:10.1146/annurev.med.59.061606.095816 (2008).

Book Chapters

1. **Gerda Egger**, Paola Arimondo. Drug Discovery in Cancer Epigenetics. Academic Press, 05 Feb 2016, Print Book ISBN : 9780128022085
2. Melanie R Hassler, Elisa Redl, Quanah J Hudson, Wolfgang J Miller, **Gerda Egger**. Basic Epigenetic Mechanisms and Phenomena, Academic Press, 05 Feb 2016, Print Book ISBN : 9780128022085, Co-Editor.

Conference Papers

1. J Laengle, J Kabiljo, J Homola, L Hunter, **G Egger**, M Bergmann. Histone deacetylase inhibitors valproic acid and vorinostat enhance trastuzumab-mediated antibody-dependent cell-mediated phagocytosis. *European Journal of Cancer* **110**, S5
2. MR Hassler, D Ilijazi, W Pulverer, D D'Andrea, A Haitel, **G Egger**, S Shariat. Comparison of DNA methylation profiles between BCG responders and failures. *European Urology Supplements* **17** (12), e2665
3. O Merkel, O Aksoy, M Suzani, M Hassler, K Schlangen, T Balber, M Mitterhauser, A Moazzami, M Schlederer, S Turner, **G Egger**, G Hormann, M Hacker, Z Culig, J Pencik, L Kenner. μ -Crystalline as hormone antagonist in prostate cancer. *Androgens* **2016** 42
4. Jan, M Schlederer, W Gruber, C Unger, S M Walker, A Chalaris, I Marié, MR Hassler, T Javaheri, O Aksoy, JK Blayney, P Mazal, F Grebien, **G Egger**, V Poli, R Eferl, R Kennedy, F Fend, M Scharpf, M Braun, S Perner, DE Levy, T Malcolm, SD Turner, A Haitel, M Susani, A Moazzami, S Rose-John, F Aberger, O Merkel, R Moriggl, Z Culig, H Dolznig, L Kenner. ID: 263: Loss of IL-6/Stat3 signalling drives metastatic prostate cancer in mice and men. *Cytokine* **76** (1), 112
5. R Exner, W Pulverer, B Wolf, M Bergmann, A Weinhausel, **G Egger**. 2198 DNA methylation in rectal cancer: A new diagnostic and prognostic biomarker panel. *European Journal of Cancer* **51**, S399
6. L Carlberg, J Scheibelreiter, MR Hassler, M Schloegelhofer, M Schmoeger, B Ludwig, S Kasper, H Aschauer, **G Egger**, A Schosser- P. 1. a. 010 DNA methylation of the BDNF gene in schizophrenia. *European Neuropsychopharmacology*, S165

7. F Hamacher, D Laimer, M Scheideler, Z Trajanoski, **G Egger**, L Kenner, R Greil, O Merkel. role of mirnas in Alk+ and Alk-anaplastic large cell lymphoma: V699. *Onkologie* 33, 209
8. E Wolff, HM Byun, C Cortez, **G Egger**, Y Tsai, P Nichols, E Skinner, K Siegmund, A Yang, P Jones, G Liang. Abstract# LB-172: Hypomethylation of a LINE-1 Promoter Activates a Truncated MET Transcript in Bladder Cancer. *Cancer Research* 69 (9 Supplement), LB-172-LB-172
9. E Wolff, C Cortez, **G Egger**, P Jones, Y Tsai, P Nichols, G Liang. Hypomethylation of a specific LINE-1 activates an alternate transcript of the MET oncogene across large portions of the bladder. *Cancer Research* 67 (9 Supplement), 2838-2838
10. CC Cortez, G Liang, A Van Rietschoten, L Jia, YC Tsai, **G Egger**, PA Jones. RUNX3: Promoter 1 methylation status. *Cancer Research* 66 (8 Supplement), 372-372
11. CC Cortez, G Liang, YC Tsai, **G Egger**, PA Jones. RUNX3 promoter 1 tissue specific methylation and promoter 2 tumor specific methylation. *Cancer Research* 65 (9 Supplement), 433-434
12. Y Saito, G Liang, **G Egger**, TWH Li, JC Chuang, PA Jones. Induction of microRNA-127 by DNA demethylation and histone deacetylase inhibition in human cells. *Cancer Research* 65 (9 Supplement), 1234-1234
13. **G Egger**, A Aparicio, S Escobar, PA Jones. Effects of combinatorial treatment of T24 cells with 5'-aza-2'-deoxycytidine and 4-phenylbutyric acid. *Cancer Research* 65 (9 Supplement), 426-426
14. G Liang, CC Cortez, JCY Lin, **G Egger**, PA Jones. Establishment of tissue specific expression of LAMB3 by loss of DNA methylation. *Cancer Research* 65 (9 Supplement), 1234-1234

