BIOGRAPHICAL SKETCH

NAME: Richard Moriggl
eRA COMMONS USER NAME (credential, e.g., agency login): http://orcid.org/0000-0003-0918-9463
POSITION TITLE: Dr. (PhD), DI, Full Prof., University of Veterinary Medicine, Vienna
Web link: *https://moriggllab.com/*

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	Completion Date	FIELD OF STUDY
University of Freiburg, Institute of Experimental Cancer Research, Freiburg, Germany	PhD	1994-1997	Molecular Biology, Biochemistry
St. Jude Children's Research Hospital, Memphis, TN, U.S.A.	Postdoc	1997-2000	Immunology, Hematopoiesis
Institute of Molecular Pathology (IMP), Vienna, Austria	Postdoc	2000-2005	Cancer Research and Signaling Pathways
Ludwig Boltzmann Institute for Cancer Research (LBI-CR), Vienna, Austria	Director	2005 to 2018	Cancer Research and Cytokine Signaling
Dual Prof. Appointment: University of Veterinary Medicine, Vienna, Austria and Medical University Vienna, Vienna, Austria	Full Professor	2014-2018	Functional Cancer Genomics Core Cancer Pathways
University of Veterinary Medicine, Vienna, Austria	Full Professor	2019 and ongoing	Unit for Functional Cancer Genomics Targeting JAK-STAT

A. Personal Statement, Research Focus on Core Cancer Pathway Understanding and Targeting

Dr. Moriggl studied biotechnology and process engineering in Germany (DI) and he did his PhD in 1997 working on cytokine signaling exploring the action of STAT5A, STAT5B, STAT6 or JAK2 with Prof. Groner, Friedrich Miescher Institute, Basel, Switzerland and Institute of Experimental Cancer Research, Freiburg, Germany. He did a first Howard Hughes postdoc until 2000 on immunology with Prof. Ihle, St. Jude Children's Research Hospital, Memphis, USA, training also with the group of Prof. Doherty at St. Jude. After ~four years in the USA he moved for a senior postdoc for additional ~five years with Prof. Beug, Institute for Molecular Pathology, Vienna, Austria on a Marie Curie Host Industry fellowship to work on hematopoietic cancer. Moreover, he worked with Prof. Schütz and Prof. Tronche from DKFZ and College de France on insights of the hepatic interaction of the glucocorticoid receptor with STAT5B regulating RNA biogenesis, sexual maturation, body growth control and energy supply. Moriggl funded in 2004 with other young PI´s the Ludwig Boltzmann Institute for Cancer Research heading up to six research groups and up to 55 employees serving for 14 years as director. The LBI-CR was in 2018 fully integrated into medical research performing universities in Vienna achieving five full professorships, truly outstanding due to cancer research performance publishing several hundred manuscripts with LBI-CR research groups. Today, the Moriggl lab for Functional Cancer Genomics has two junior groups integrated best viewed online (***https://moriggllab.com/***), namely Dr. Heidi Neubauer who concentrates on "*Understanding the role of the JAK-STAT core cancer pathway in mature T cell leukemias/lymphomas and myeloproliferative neoplasms*" and Dr. Anna Orlova, who focuses on "*Design of novel therapeutics targeting STAT5 oligomerization for the treatment of hematopoietic cancers with acute myeloid leukemia (AML)*". Currently, we explore targeting of JAK kinases and STAT transcription factors performing basic and translational cancer research. A focus is also the generation and utilization of gene targeted mouse models. Comparative pathology and full translation with development of own small molecular weight inhibitors and target exploration are missions to fight cancer. We investigate currently neoplastic T-cell development, acute myeloid or lymphoid leukemia, and molecular mechanisms leading to enhanced proliferation and survival with reprogrammed metabolism. We are driven by questions how to develop new therapies to eradicate cancer, a terrible complex variety of genetic diseases. The Moriggl lab contributes also to the physiologic understanding of tissue types and to understand gene regulatory and chromatin landscape consequences feeding back on gene transcription. We study normal or neoplastic cancer cells upon hyperactive JAK-STAT3/5 action as a central core cancer pathway that drives and connects with other core cancer pathways; its efficient and innovative specific targeting is of utmost importance to fight infections, autoimmunity, chronic inflammation or cancer. Targeting STAT5 in particular has broad implications

and applications. Unpublished work investigates T-cell development, targeting of STAT5 chromatin loops or SH2 domain inhibitor exploration done in collaborations to understand hematopoietic cancer in association with fatal clinical problems. Moreover, we study cancers of companion animals and tumours in Tasmanian devils to explore cancer in broad biological, metabolic and immunological context. The Moriggl lab has many international collaboration partners, best viewed online (***https://moriggllab.com/***).

B. Positions and Honors (Scientific Education and Career History):

1988 - 1993	Study of Biotechnology at the Technical College, Bingen, Germany and Diploma work (DI), Institute of Cell and Molecular Biology, CNRS, Strasbourg, France
1993 - 1997	Ph.D. Doctoral thesis; First at the Friedrich Miescher Institute, Basel, Switzerland, then continuation at Department of Biology, University of Freiburg, Institute for Experimental Cancer Research, Germany
1997 - 2000	Postdoctoral Howard Hughes fellowship at St. Jude Children's Research Hospital, Memphis, TN, USA
2000 – 2002 **2002-2005**	Marie Curie Host Industry Fellowship, Institute of Molecular Pathology, Vienna, Austria Postdoctoral fellow at Institute of Molecular Pathology, Vienna, Austria
since 2005 **to 2018**	Director Ludwig Boltzmann Institute for Cancer Research, Vienna, Austria LBI-CR Renewal and second funding period with five long term Partner Institutes
since 2014	Functional Cancer Genomics (full professorship), Institute of Animal Breeding and Genetics, University of Veterinary Medicine Vienna, Medical University Vienna

Fellowships and Appointments:

1997 - 2000	Howard Hughes Medical Institute Postdoctoral Fellowship
2000 - 2002	Marie Curie Host Industry Fellowship
2003	"Habilitation/*Venia Docendi"* for Molecular Biology, Medical University Vienna
2005	Offered group leader position, Leibniz Institute for Age Research, Jena
2005 till 12/2018	Director, Ludwig Boltzmann Institute for Cancer Research (LBI-CR)
2014 to 2019	Full Prof. with the two medical research performing universities in Vienna: Medical University Vienna and the University of Veterinary Medicine, Vienna, Austria
since 2018	The LBI-CR fully merged and integrated into medical research performing universities
2019/2020	Academic Editor with Cancers for a Special Issue "Targeting STAT3 and STAT5 in Cancer" https://www.mdpi.com/journal/cancers/special_issues/STAT_cancers
2019	Establishing and heading the Platform for Comparative Pathology
03/2020 to 10/2021	Editor for Cytokine https://www.elsevier.com/editors/

C. Contribution to Science

Biographical Sketch and Key Data
Original articles, peer reviewed **n>200** (including reviews/book chapters indexed in PubMed

Citation Report based on Google Scholar:
h-index: **65**
i10-index **157**
total citations: **14049**
Invited lectures **n>220**
Funded grants (to RM or key group members) **n>17** (including grant renewals and subgroup grants)
The total amount of external grant money (details below) acquired by the applicant and key group members ***since 2006*** *is* ***~>8 Million €****, not including internal funding through the LBI-CR or any university supplied funding.*
Memberships in societies **n=2** (AACR, ISICR**)**
Patents: Multi-Hit mice patent: 2007 and 2009 co-inventor
US provisional patent: STAT5 inhibitor (06/2020)

Honors and Awards

”Max Buchner-Forschungspreis”, best DI work, DECHEMA, 1992, Bingen, Germany
Howard Hughes Medical Institute Postdoctoral Fellowship from 1997 to 2000, Memphis, TN, USA
Marie Curie Host Industry Fellowship from 2000 to 2002, Vienna, Austria
“Otto-Kraupp-Preis” for the Venia Docendi, Medical Faculty, 2004, Vienna, Austria
Award of the City of Vienna for Interdisciplinary Cancer Research, 2008, Vienna, Austria
Crystal Award, 20 Years JAK-STAT: From Discovery to Drugs, 2011, W.D.C., USA
Award for the most cited scientist, University of Veterinary Medicine, 2019, Vienna, Austria

Three selected research contribution areas and five key publications:

1. JAK-STAT and cytokine signaling, core cancer pathway analysis and functional cancer genomics
2. Basic and translational cancer research, metabolism and exploration of new therapies
3. Comparative molecular pathology to understand and to facilitate cancer target definition

- Kosack L*,Wingelhofer B*, Popa A*, Orlova A*, Agerer B, Vilagos B, Majek P, Parapatics K, Lercher A, Ringler A, Klughammer J, Smyth M, Khamina K, Baazim H, de Araujo ED, Rosa DA, Park J, Tin G, Ahmar S, Gunning PT, Bock C, Siddle HV, Woods GM, Kubicek S, Murchison EP, Bennett KL, Moriggl R# & Bergthaler A# (2019) The ERBB-STAT3 Axis Drives Tasmanian Devil Facial Tumor Disease. **Cancer Cell**, doi: 10.1016/j.ccell.2018.11.018. *equal contribution; #equal correspondence
- Pham HTT, Maurer B, Prchal-Murphy M, Grausenburger R, Grundschober E, Javaheri T, Nivarthi H, Boersma A, Kolbe T, Elabd M, Halbritter F, Pencik J, Kazemi Z, Grebien F, Hengschläger M, Kenner L, Kubicek S, Farlik M, Bock C, Valent P, Müller M, Rülicke T, Sexl V & Moriggl R (2018) STAT5B^{N642H} is a driver mutation for T-cell neoplasia. **Journal of Clinical Investigation**, doi: 10.1172/JCI94509
- Freund P, Kerenyi MA, Hager M, Wagner T, Wingelhofer B, Pham HT, Elabd M, Han X, Valent P, Gouilleux F, Sexl V, Krämer OH, Groner B & Moriggl, R (2017) O-GlcNAcylation of STAT5 controls tyrosine phosphorylation and oncogenic transcription in STAT5-dependent malignancies. **Leukemia**, doi: 10.1038/leu.2017.4
- Wingelhofer B, Maurer B, Heyes EC, Cumaraswamy AC, Berger-Becvar A, Araujo ED, Orlova A, Freund P, Ruge F. Jisung P, Tin G, Ahmar S, Lardeau CH, Sadovnik I, Bajusz D, Keserü GM, Grebien F, Kubicek S, Valent P, Gunning P & Moriggl R (2018) Pharmacologic inhibition of STAT5 in acute myeloid leukemia, **Leukemia**, doi: 10.1038/s41375-017-0005-9
- Müller KM, Hartmann K, Kaltenecker D, Vettorazzi S, Bauer M, Mauser L, Amann S, Jall S, Fischer K, Esterbauer H, Müller TD, Magnes C, Haybaeck J, Scherer J, Bordag N, Tuckermann JP & Moriggl R (2016) Adipocyte glucocorticoid receptor deficiency attenuates aging- or HFD-induced obesity and impairs the feeding-fasting transition. **Diabetes**, doi: 10.2337/db16-0381

Career-related Activities:

Academic editor for Cytokine 03/2020 to 12/2021 completing >100 papers and academic editor for a *Cancers* on “Targeting STAT3 and STAT5 in Cancer” 2019/20 completing 26 articles;
Accepted voluntary reviewer function for (in alphabetic order): *Bioconjugate Chemistry, BMC Cancer, Blood, British Journal of Cancer, Cancer Discovery, Cancer Medicine, Cancer Research, Cancers, Carcinogenesis, Cell Reports, ChemMedChem, Communications Biology, The EMBO Journal, EMBO Molecular Medicine, EMBO Reports, European Journal of Clinical Investigation, Expert Review of Molecular Diagnostics, Expert Review of Endocrinology and Metabolism, FEBS Letters, Future Drugs Ltd., Genesis, Gut, International Journal of Molecular Sciences, JAK-STAT, Haematologica, Hepatology, Human Molecular Genetics, HemaSphere, Immunology Letters, Journal of Biological Chemistry, Journal of Cellular and Molecular Medicine, Journal of Leukocyte Biology, Journal of Clinical Investigation, Journal of Clinical Investigation Insight, Journal of Immunology, Journal of Immunology Research, Journal of Leucocyte Biology, Leukemia, Medicine, Molecular and Cellular Biology, Molecular Cancer Research, Molecular and Cellular Endocrinology, Molecular Oncology, Molecular Metabolism, Molecular Therapy – Oncolytics, Nature Communications, Neoplasia, Oncogene, Oncotarget, Pharmacology & Therapeutics, Proceedings of the National Academy of Science USA, PLOS One, Scientific Reports, Signal Transduction and Targeted Therapy, Swiss Medical Weekly, The Scientific World Journal, The Journal of Genetics and Development,* and others.
External review on multiple NIH applications, advisory reviewer for the "Institute National Du Cancer" (France), multiple reviews for French National Research Agency (ANR), The Multi-Organism Institute (ITMO) Cancer of Aviesan Alliance (National Alliance for Life Sciences and Health)/INSERM in collaboration with National Institute of cancer (INCa) “Characterization of pre-neoplastic lesions and stratification of their evolving risks”, external evaluator Institute Cochin or Hospital Necker, Paris, under guidance of AERES, France, several reviews for Croatian Science Foundation, the Liddy Shriver Sarcoma Initiative (USA), the University Hospitals Case Medical Centre (USA), the German Research Foundations “Deutsche Forschungsgemeinschaft (DFG)” or “Deutsche Krebshilfe” (Germany), serving 2021 as review panel member for SFB/TR 209 program, the Heinrich Heine University (Düsseldorf, Germany), Health Research Council of New Zealand, the Paracelsus Medical University Salzburg (Austria), the "Volkswagenstiftung" (Germany), the “NÖ Forschungs- und Bildungsges.m.b.H.” (Austria) at multiple reviews, the University Montreal (Canada), the Académie Louvain (Belgium), evaluator for the Molecular and Cellular Medicine Board, Medical Research Council MRC and for the Wellcome Trust, both United Kingdom, Basic Science Fund, Denmark, two rounds scientific evaluation committee member for TRANSCAN

ERA-Net on Translational Cancer Research, scientific evaluation committee member for FCT – Fundação para a Ciência e a Tecnologia, Scientific Research and Technological Development Projects 2015, Member of the Basic Medicine Panel, FCT, 2020 Lisbon, Portugal in 2020, member of the Clinical Medicine, Immunology and Infection evaluation panel, FCT, 2021 from the Ministry of Science and Education, Portugal; Review panel member for Flagship Project Proposals 2016 for BioTechMed Graz, Austria; Reviewer for University of Michigan, USA 2017; external reviewer for PhD program –University of Salzburg Biomolecules 2018; Reviewer for Fondation Recherche Medicale – Chemistry for Medicine, France 2018, First TEAM reviewer for Foundation for Polish Science (FNP) 2018, National Science Centre, Poland, reviewer 2021, Award SC – Renewing Programme Reviewer for Cancer Research UK 2018, external reviewer for an Professorship Sarcomas, Balgrist, University Zürich 2019, multiple reviews for Kidney Research UK; scientific evaluator for Austrian Ministry, scientific evaluator for Institute National Du Cancer, France 2019, serveral evaluations for "Fonds der Stadt Wien" for Innovative Cancer Research 2019, Evaluator for Olivia Hodson Cancer Fund 2019, Evaluator for Technical University Munich, External Advisor for Professorship Tumorimmunology in 2020, University of Salzburg, reviewer for Swiss Cancer League/Swiss Cancer Research 2021, Reviewer for European Science Foundation, Flandern, Belgium 2022

D. Main Research Support

Ongoing Research Grants (not including basic funding resources from university side or the LBI-CR):

1.) Austrian Science Funds: FWF-SFB F061, 2017-03/2021, Special research programme "Jak-Stat Monarchies and Hierarchies in Shaping Chromatin Landscapes"; www.jak-stat.at; Subproject (~130 k*€/year*)

2.) Austrian Science Funds: FWF-SFB F047-B13, 2013-03/2021, Special research programme "Myeloproliferative Neoplasms"; www.meduniwien.ac.at/sfb_mpn; Deputy coordinator and subproject (~110 k*€/year*)

3.) Cancer research collaboration with Janpix 2020/2021 (~100 k*€/year*)

4.) ERA-NET TRANSCAN-2: Implementation of (epi)genetic and metabolic networks in the targeting of T-cell prolymphocytic leukemia, European Commission, 2019-2022 (~100 k*€/year*)

5.) ERAPERMED: JAKSTAT-TARGET - Novel individualized therapies in JAK/STAT driven T-cell malignancies for Dr. Heidi Neubauer within Functional Cancer Genomics Unit of R. Moriggl; European Commission, 2019-2022 (~100 k*€/year*)

6.) Tasmanian Devil Facial Tumor disease studies, 08/2021-08/2023

Publications (years 2017 to 2021):

PubMed listed articles: >205 since 1995

1. Woess K, Macho-Maschler S, van Ingen Schenau DS, Butler M, Lassnig C, Valcanover D, Poelzl A, Meissl K, Maurer B, Brandstoetter T, Vogl C, Koren A, Kubicek S, Orlova A, Moriggl R, Strobl B, Sexl V, van Leeuwen FN, Kuiper RP & Mathias Mueller (2021) Oncogenic TYK2^{P760L} kinase is effectively targeted by combinatorial TYK2, mTOR and CDK4/6 kinase blockade. **Haematologica**, doi: 10.3324/haematol.2021.279848
2. Erdogan F, Radu TB, Orlova A, Qadree AK, de Araujo ED, Israelian J, Valent P, Mustjoki SM, Herling M, Moriggl R & Gunning PT (2021) The JAK-STAT core cancer pathway: An integrative cancer interactome analysis. **Journal of Cellular and Molecular Medicine**, accepted
3. Willmann M, Yuzbasiyan-Gurkan V, Marconato L, Dacasto M, Hadzijusufovic E, Hermine O, Sadovnik I, Gamperl S, Schneeweiss-Gleixner M, Gleixner KV, Böhm T, Peter B, Eisenwort G, Moriggl R, Li Z, Jawhar M, Sotlar K, Jensen-Jarolim E, Sexl V, Horny HP, Galli SJ, Arock M, Vail DM, Kiupel M & Valent P. (2021) Proposed diagnostic criteria and classification of canine mast cell neoplasms: A consensus proposal. **Frontiers in Veterinary Science**, https://doi.org/10.3389/fvets.2021.755258.
4. Wiebringhaus R, Pecoraro M, Neubauer HA, Trimmel B, Wieselberg M, Pencik J, Egger G, Krall C, Moriggl R, Mann M, Hantusch B & Lukas Kenner (2021) Proteomic analysis identifies NDUFS1 and ATP5O as novel markers for survival outcome in prostate cancer. **Cancers**, doi: 10.3390/cancers13236036.
5. Bregante J, Schönbichler A, Pölöske D, Degenfeld-Schonburg L, Contreras GM, Hadzijusufovic E, de Araujo ED, Valent P, Moriggl R & Orlova A (2021) Efficacy and synergy of small molecule inhibitors targeting FLT3-ITD^{+} Acute Myeloid Leukemia. **Cancers**, doi.org/10.3390/cancers13246181
6. Schönefeldt S, Wais T, Herling M, Mustjoki S, Bekiaris V, Moriggl R & Neubauer HA (2021) The diverse roles of γδ T cells in cancer: from rapid immunity to aggressive lymphoma. **Cancers**, doi.org/10.3390/cancers13246212
7. Beghini M, Wagner T, Luca AC, Metz M, Kaltenecker D, Spirk K, Hackl MT, Haybaeck J, Moriggl R, Kautzky-Willer A, Scherer T & Fürnsinn C. (2021) Adipocyte STAT5 deficiency does not affect blood glucose homeostasis in obese mice. **PloS One**, doi: 10.1371/journal.pone.0260501
8. Erdogan F, Qadree AK, Radu TB, Orlova A, de Araujo ED, Israelian J, Valent P, Mustjoki SM, Herling M, Moriggl R & Gunning PT (2021) Structural and mutational analysis of member-specific STAT functions. **Biochimica et Biophysica Acta**, doi: 10.1016/j.bbagen.2021.130058
9. Kieslinger M, Swoboda A, Kramer N, Freund P, Pratscher B, Neubauer HA, Steinborn R, Wolfesberger B, Fuchs-Baumgartinger A, Moriggl R & Burgener I (2021) A recurrent STAT5B^{N642H} driver mutation in feline alimentary T cell lymphoma. **Cancers**, doi: 10.3390/cancers13205238
10. Igelmann S, Lessard F, Uchenunu O, Bouchard J, Fernandez-Rui A, Rowell MC, Lopes-Paciencia S, Papadopoli D, Fouillen A, Ponce KJ, Huot G, Mignacca L, Benfdil M, Kalegari P, Wahba HM, Pencik J, Vuong N, Quenneville J, Guillon J, Bordeau V, Hulea L, Gagnon E, Kenner L, Moriggl R, Nanci A, Pollak MN, Omichinski JG, Topisirovic I & Ferbeyre-G. (2021) A hydride transfer complex reprograms NAD metabolism preventing senescence. **Molecular Cell**, doi: 10.1016/j.molcel.2021.08.028

11. Kollmann S, Grausenburger R, Klampfl T, Prchal-Murphy M, Bastl K, Pisa H, Knab VM, Brandstoetter T, Doma E, Sperr WR, Lagger S, Farlik M, Moriggl R, Valent P, Halbritter F, Kollmann K, Heller G, Maurer B & Sexl V. (2021) A STAT5B-CD9 axis determines self-renewal in hematopoietic and leukemic stem cells. **Blood**, doi: 10.1182/blood.2021010980
12. Breitenecker K, Homolya M, Luca AC, Lang V, Trenk C, Petroczi G, Mohrherr J, Horvath J, Moritsch S, Haas L, Kurnaeva M, Eferl R, Stoiber D, Moriggl R, Bilban M, Obenauf AC, Ferran C, Dome B, Laszlo V, Györffy B, Dezso K, Moldvay J, Casanova E & Moll HP (2021) Downregulation of A20 promotes immune escape of lung adenocarcinomas. **Science Translational Medicine**, doi: 10.1126/scitranslmed.abc3911
13. Pons M, Zeyn Y, Zahn S, Mahendrarajah N, Page BDG, Gunning PT, Moriggl R, Brenner W, Butter F & Krämer OH. (2021) Oncogenic Kinase Cascades Protect Leukemic Cells from Lethal Effects of de novo dNTP Synthesis Inhibition. **Cancers**, doi: 10.3390/cancers13143464
14. Toutah K, Nawar N, Timonen S, Sorger H, Raouf YS, Bukhari S, Jan J, Ianevski A, Gawel JM, Olaoye OO, Geletu M, Abdeldayem A, Israelian J, Radu TB, Sedighi A, Bhatti MN, Hassan MM, Pimyupa Manaswiyoungkul P, Shouksmith AE, Neubauer HA, De Araujo ED, Aittokallio T, Krämer OH, Moriggl R, Mustjoki S, Herling M & Gunning PT (2021) Development of HDAC inhibitors exhibiting therapeutic potential in T-cell prolymphocytic leukemia. **Journal of Medicinal Chemistry** https://doi.org/10.1021/acs.jmedchem.1c00420
15. Kim D, Park G, Huuhtanen J, Ghimire B, Rajala H, Moriggl R, Chan WC, Kankainen M, Myllymäki M & Mustjoki S (2021) STAT3 activation in large granular lymphocyte leukemia is associated with cytokine signaling and DNA hypermethylation. **Leukemia**, doi: 10.1038/s41375-021-01296-0.
16. Valent P, Orfao A, Kubicek S, Staber P, Haferlach T, Deininger M, Kollmann K, Lion T, Virgolini I, Winter G, Hantschel O, Kenner L, Zuber J, Grebien F, Moriggl R, Hoermann, G, Hermine O, Andreeff M, Bock C, Mughal T, Constantinescu SN, Kralovics R, Sexl V, Skoda R, Superti-Furga G & Jäger U (2021) Precision Medicine in Hematology 2021: Definitions, Tools, Perspectives, and Open Questions. **HemaSphere**, doi: 10.1097/HS9.0000000000000536
17. Surbek M, Tse W, Moriggl R & Han X (2021) A centric view of JAK/STAT5 in intestinal homeostasis, infection, and inflammation. **Cytokine**, doi: 10.1016/j.cyto.2020.155392.
18. Tripolt S, Neubauer HA, Knab VM, Elmer DP, Aberger F, Moriggl R & Fux DA (2021) Opioids drive breast cancer metastasis through the δ-opioid receptor and oncogenic STAT3. **Neoplasia**, doi: 10.1016/j.neo.2020.12.011
19. Swoboda A, Soukup R, Eckel O, Kinslechner K, Wingelhofer B, Schörghofer D, Sternberg C, Pham HTT, Vallianou M, Horvath J, Stoiber D, Kenner L, Larue L, Poli V, Beermann F, Yokota T, Kubicek S, Krausgruber T, Rendeiro AF, Bock C, Zenz R, Kovacic B, Aberger F, Hengstschläger M, Petzelbauer P, Mikula M# & Moriggl R# (2021) STAT3 promotes melanoma metastasis by CEBP-induced repression of the MITF pathway. **Oncogene**, doi: 10.1038/s41388-020-01584-6. #equal correspondence
20. Poelzl A, Lassnig C, Tangermann S, Hromadová D, Reichart U, Gawish R, Mueller K, Moriggl R, Linkermann A, Glösmann M, Kenner L, Mueller M & Strobl B (2021) TYK2 licenses non-canonical inflammasome activation during endotoxemia. **Cell Death and Differentiation**, doi: 10.1038/s41418-020-00621-x
21. Aksoy O, Pencik J, Hartenbach M, Moazzami AA, Schlederer M, Balber T, Varady A, Philippe C, Baltzer PA, Mazumder B, Whitchurch JB, Roberts CJ, Haitel A, Herac M, Susani M, Mitterhauser M, Marculescu R, Stangl-Kremser J, Hassler MR, Kramer G, Shariat SF, Turner SD, Tichy B, Oppelt J, Pospisilova S, Hartenbach S, Tangermann S, Egger G, Neubauer HA, Moriggl R, Culig Z, Greiner G, Hoermann G, Hacker M, Heery DM, Merkel O & Kenner L (2021) Thyroid and androgen receptor signaling are antagonized by μ-Crystallin in prostate cancer. **International Journal of Cancer**, doi: 10.1002/ijc.33332.
22. Oberbeck S, Schrader A, Warner K, Jungherz D, Crispatzu G, von Jan J, Chmielewski M, Ianevski A, Diebner HH, Mayer P, Kondo Ados A, Wahnschaffe L, Braun T, Müller TA, Wagle P, Bouska A, Neumann T, Pützer S, Varghese L, Pflug N, Thelen M, Makalowski J, Riet N, Göx HJM, Rappl G, Altmüller J, Kotrová M, Persigehl T, Hopfinger G, Hansmann ML, Schlößer H, Stilgenbauer S, Dürig J, Mougiakakos D, von Bergwelt-Baildon M, Roeder I, Hartmann S, Hallek M, Moriggl R, Brüggemann M, Aittokallio T, Iqbal J, Newrzela S, Abken H & Herling M (2020) Non-canonical effector functions of the T-memory-like T-PLL cell are shaped by cooperative TCL1A and TCR signaling. **Blood**, doi: 10.1182/blood.2019003348
23. De Araujo ED, Keserú GM, Gunning PT & Moriggl R (2020) Targeting STAT3 and STAT5 in Cancer. **Cancers**, doi: 10.3390/cancers12082002
24. Kaltenecker D, Spirk K, Ruge F, Grebien F, Herling M, Rupprecht A, Kenner L, Pohl EE, Mueller KM & Moriggl R (2020) STAT5 is required for lipid breakdown and beta-adrenergic responsiveness of brown adipose tissue. **Molecular Metabolism**, doi: 10.1016/j.molmet.2020.101026
25. Schmoellerl J, Barbosa IAM, Eder T, Brandstoetter T, Schmidt L, Maurer B, Troester S, Pham HTT, Sagarajit M, Ebner J, Manhart G, Aslan E, Terlecki-Zaniewicz S, Van der Veen C, Hoermann G, Duploez N, Petit A, Lapillonne H, Puissant A, Itzykson RA, Moriggl R, Heuser M, Meisel R, Valent P, Sexl V, Zuber J & Grebien F (2020) CDK6 is an essential target of NUP98-fusion proteins in acute myeloid leukemia. **Blood**, doi: 10.1182/blood.2019003267
26. Hadzijusufovic E, Keller A, Berger D, Greiner G, Wingelhofer B, Witzeneder N, Ivanov D, Pecnard E, Nivarthi H, Schur FKM, Filik Y, Kornauth C, Neubauer HA, Müllauer L, Tin G, Park J, de Araujo ED, Gunning PT, Hoermann G, Gouilleux F, Kralovics R, Moriggl R & Valent P (2020) STAT5 is expressed in $CD34^{+}/CD38^{-}$ stem cells and serves as a potential molecular target in Ph-negative myeloproliferative neoplasms. **Cancers**, doi: 10.3390/cancers12041021
27. Kadekar D, Agerholm R, Rizk J, Neubauer HA, Suske T, Maurer B, Viñals MT, Comelli EM, Taibi A, Moriggl R & Bekiaris V (2020) The neonatal microenvironment programs innate γδ T cells through the transcription factor STAT5. **Journal of Clinical Investigation** doi: 10.1172/JCI131241
28. Abdeldayem A, Raouf YS, Constantinescu SN, Moriggl R & Gunning PT (2020) Advances in covalent kinase inhibitors. **Chemical Society Reviews** doi: 10.1039/c9cs00720b
29. Orlova A, Wagner C, de Araujo ED, Bajusz D, Neubauer HA, Herling M, Gunning PT, Keserü GM & Moriggl R (2019) Direct targeting options for STAT3 and STAT5 in Cancer. **Cancers**, doi: 10.3390/cancers11121930
30. Lercher A, Bhattacharya A, Popa AM, Caldera M, Schlapansky MF, Baazim H, Agerer B, Gürtl B, Kosack L, Májek P, Brunner JS, Vitko D, Pinter T, Genger JW, Orlova A, Pikor N, Reil D, Ozsvár-Kozma M, Kalinke U, Ludewig B, Moriggl R, Bennett KL, Menche J, Cheng PN, Schabbauer G, Trauner M, Klavins K & Bergthaler A (2019) Type I interferon signalling disrupts the hepatic urea cycle and alters systemic metabolis to suppress T cell function. **Immunity**, doi: 10.1016/j.immuni.2019.10.014
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