

LEBENS LAUF

HEIDELINDE FIEGL

Beruflicher Werdegang

- 2001 Promotion zur Doktorin der Naturwissenschaften, Leopold Franzens Universität, Innsbruck, Österreich. Dissertation: "Identification and characterization of a new member of the immunoglobulin superfamily differentially expressed on human Dendritic cells during maturation"
- 2001 – 2005 Postdoc-Anstellung an der Univ. Klinik für Gynäkologie und Geburtshilfe, Medizinische Universität Innsbruck (MUI)
- 2005 – 2006 Senior Postdoc am Institute of Women's Health, Dept. of Gynecological Oncology; University College London, UK
- 2006 – 2007 Senior Postdoc am Tiroler Krebsforschungsinstitut, Innsbruck, Österreich
- 2007 – 2009 Senior Postdoc an der Univ. Klinik für Gynäkologie und Geburtshilfe, MUI (FWF Elise Richter Stipendium)
- 2008 Verleihung der Venia docendi für Experimentelle Gynäkologie
- 2009 – 2011 Univ. Ass. an der Univ. Klinik für Gynäkologie und Geburtshilfe, MUI
- Seit Okt. 2010 Leiterin des Labors für Klinische Biochemie an der Univ. Klinik für Gynäkologie und Geburtshilfe, MUI
- Seit Dez. 2011 Ass. Prof. an der Univ. Klinik für Gynäkologie und Geburtshilfe, MUI
- Seit Aug. 2014 Assoz. Prof. an der Univ. Klinik für Gynäkologie und Geburtshilfe, MUI

Schwerpunkte

- **Translationale Onkologie:**
 - Fokus auf Brust- und gynäkologischen Krebserkrankungen
 - Identifizierung von Biomarkern zur Risikovorhersage und Individualisierung von Therapien
 - Testungen von neuen Therapiekonzepten an 2D und 3D Zellkulturmodellen
- **Harmonisierung des Qualitätsmanagements im Biobanking**

Mitgliedschaften bei wissenschaftlichen Organisationen

- Mitglied der **Österreichischen Gesellschaft für Gynäkologie und Geburtshilfe**
- Mitglied der **Österreichischen Gesellschaft für Senologie**
- Mitglied des **österreichischen Biobanken-Netzwerks BBMRI.AT (Biobanking and BioMolecular resources Research Infrastructure Austria)**

Lehre und Fortbildung

- Lehrtätigkeit
 - Wintersemester:
 - LV-Nr. 020201 Modul 2.02: Medizinische Wissenschaften
 - LV-Nr. 612400 PM2 Oncoscience: Theoretische und praktische Grundlagen-Vorlesung
 - LV-Nr. 622100 WM1 Genetik-Epigenetik-Genomik: Theoretische und praktische Grundlagen-Vorlesung
 - LV-Nr. 622101 WM1 Genetik-Epigenetik-Genomik: Laborpraktikum
 - LV-Nr. 622102 WM1 Genetik-Epigenetik-Genomik: Seminar
 - LV-Nr. 622103 WM1 Genetik-Epigenetik-Genomik: Journal Club
 - Sommersemester:
 - LV-Nr. 041103 Modul MM 4.1: Regulationen der Körperfunktionen in Gesundheit und Krankheit: Biochemie II
 - LV-Nr. 170111 Ringvorlesung Block I (KF)
 - LV-Nr. 170121 Journal Club (JC)
 - LV-Nr. 622200 WM2 3D Bioprinting, Stem Cells and Rapid Prototyping in Biomedicine: Theoretische und praktische Grundlagen-Vorlesung
 - LV-Nr. 622201 WM2 3D Bioprinting, Stem Cells and Rapid Prototyping in Biomedicine: Praktikum
- Betreuung von Bachelorarbeiten, Diplomarbeiten und Dissertationen

Publikationen

PubMed link: <https://pubmed.ncbi.nlm.nih.gov/?term=Fiegl+H>

103 original and 3 reviews peer reviewed publications

Cited: 6,312 (Web of Science; without self-citations)

H-index: 42 (Web of Science)

Total impact factor: 1000,3 (original papers with leading authorship: 378,5)

1. Boehm T, Hofer S, Winklehner P, Kellersch B, Geiger C, Trockenbacher A, Neyer S, **Fiegl H**, Ebner S, Ivarsson L, Schneider R, Kremmer E, Heufler C, Kolanus W. Attenuation of cell adhesion in lymphocytes is regulated by CYTIP, a protein which mediates signal complex sequestration. *EMBO J.* 2003;22(5):1014-24.
2. Müller HM*, **Fiegl H***, Goebel G, Hubalek MM, Widschwendter A, Müller-Holzner E, Marth C, Widschwendter M. MeCP2 and MBD2 expression in human neoplastic and non-neoplastic breast tissue and its association with oestrogen receptor status. *Br J Cancer.* 2003;89(10):1934-9.
3. Müller HM, Widschwendter A, **Fiegl H**, Ivarsson L, Goebel G, Perkmann E, Marth C, Widschwendter M. DNA methylation in serum of breast cancer patients: an independent prognostic marker. *Cancer Res.* 2003;63(22):7641-5.
4. Widschwendter A, Ivarsson L, Blassnig A, Muller HM, **Fiegl H**, Wiedemair A, Muller-Holzner E, Goebel G, Marth C, Widschwendter M. CDH1 and CDH13 methylation in serum is an independent prognostic marker in cervical cancer patients. *Int J Cancer.* 2004;109(2):163-6.
5. Widschwendter A, Muller HM, **Fiegl H**, Ivarsson L, Wiedemair A, Muller-Holzner E, Goebel G, Marth C, Widschwendter M. DNA methylation in serum and tumors of cervical cancer patients. *Clin Cancer Res.* 2004;10(2):565-71.
6. Hubalek MM, Widschwendter A, Erdel M, Gschwendtner A, **Fiegl HM**, Muller HM, Goebel G, Mueller-Holzner E, Marth C, Spruck CH, Reed SI, Widschwendter M. Cyclin E dysregulation and chromosomal instability in endometrial cancer. *Oncogene.* 2004; 23(23): 4187-92.
7. Muller HM*, Oberwalder M*, **Fiegl H***, Morandell M, Goebel G, Zitt M, Muhlthaler M, Ofner D, Margreiter R, Widschwendter M. Methylation changes in faecal DNA: a marker for colorectal cancer screening? *Lancet.* 2004;363(9417):1283-5.
8. Widschwendter A, Muller HM, Hubalek MM, Wiedemair A, **Fiegl H**, Goebel G, Mueller-Holzner E, Marth C, Widschwendter M. Methylation status and expression of human telomerase reverse transcriptase in ovarian and cervical cancer. *Gynecol Oncol.* 2004;93(2):407-16.
9. Muller HM, Widschwendter A, **Fiegl H**, Goebel G, Wiedemair A, Muller-Holzner E, Marth C, Widschwendter M. A DNA methylation pattern similar to normal tissue is associated with better prognosis in human cervical cancer. *Cancer Lett.* 2004;209(2):231-6.
10. **Fiegl H**, Gattringer C, Widschwendter A, Schneitter A, Ramoni A, Sarlay D, Gaugg I, Goebel G, Müller HM, Müller-Holzner E, Marth C, Widschwendter M. Methylated DNA collected by tampons – a new tool to detect endometrial cancer. *Cancer Epidemiol Biomarkers Prev.* 2004; 13(5): 882-8.
11. Widschwendter A, Gattringer C, Ivarsson L, **Fiegl H**, Schneitter A, Ramoni A, Müller HM, Wiedemair A, Jerabek S, Müller-Holzner E, Goebel G, Marth C and Widschwendter M. Analysis of aberrant DNA methylation and HPV DNA in cervicovaginal specimens to detect invasive cervical cancer and its precursors. *Clin Cancer Res.* 2004;10(10): 3396-400.
12. Muller HM, Ivarsson L, Schrocksnadel H, **Fiegl H**, Widschwendter A, Goebel G, Kilga-Nogler S, Philadelphia H, Gutter W, Marth C, Widschwendter M. DNA methylation changes in sera of women in early pregnancy are similar to those in advanced breast cancer patients. *Clin Chem.* 2004;50(6):1065-8.

13. Widschwendter M, Siegmund KD, Muller HM, **Fiegl H**, Marth C, Muller-Holzner E, Jones PA, Laird PW. Association of breast cancer DNA methylation profiles with hormone receptor status and response to tamoxifen. *Cancer Res.* 2004;64(11):3807-13.
14. Widschwendter M, Jiang G, Woods C, Müller HM, **Fiegl H**, Goebel G, Marth C, Müller-Holzner E, Zeimet AG, Laird PW, Ehrlich M. DNA hypomethylation and ovarian cancer biology. *Canc Res.* 2004; 64(13): 4472-80.
15. Muller HM, **Fiegl H**, Widschwendter A, Widschwendter M. Prognostic DNA methylation marker in serum of cancer patients. *Ann N Y Acad Sci.* 2004;1022:44-9.
16. Müller HM, Widschwendter A, Goebel G, Hubalek MM, **Fiegl H**, Ivarsson L, Millinger S, Müller-Holzner E, Marth C, Widschwendter M. Analysis of methylated genes in peritoneal fluids of ovarian cancer patients: a new prognostic tool. *Clin Chem.* 2004;50(11):2171-3.
17. Jackson K, Yu MC, Arakawa K, Fiala E, Youn B, **Fiegl H**, Müller-Holzner E, Widschwendter M, Ehrlich M. DNA hypomethylation is prevalent even in low-grade breast cancers. *Cancer Biol Ther.* 2004;3(12):1225-31.
18. Marth C, **Fiegl H**, Zeimet AG, Muller-Holzner E, Deibl M, Doppler W, Daxenbichler G. Interferon-gamma expression is an independent prognostic factor in ovarian cancer. *Am J Obstet Gynecol.* 2004;191(5):1598-605.
19. **Fiegl H**, Millinger S, Mueller-Holzner E, Marth C, Ensinger C, Berger A, Klocker H, Goebel G, Widschwendter M. Circulating tumor-specific DNA - a marker for monitoring efficacy of adjuvant therapy in cancer patients. *Cancer Res.* 2005;65(4):1141-5.
20. Wolf D, Wolf AM, Rumpold H, **Fiegl H**, Zeimet AG, Muller-Holzner E, Deibl M, Gastl G, Gunsilius E, Marth C. The expression of the regulatory T cell-specific forkhead box transcription factor FoxP3 is associated with poor prognosis in ovarian cancer. *Clin Cancer Res.* 2005;11(23):8326-31.
21. Goebel G, Muller HM, **Fiegl H**, Widschwendter M. Gene methylation data - a new challenge for bioinformaticians? *Methods Inf Med.* 2005;44(4):516-9.
22. **Fiegl H**, Millinger S, Goebel G, Muller-Holzner E, Marth C, Laird PW, Widschwendter M. Breast Cancer DNA Methylation Profiles in Cancer Cells and Tumor Stroma: Association with HER-2/neu Status in Primary Breast Cancer. *Cancer Res.* 2006;66(1):29-33.
23. Spizzo G, Gastl G, Obrist P, Fong D, Haun M, Grunewald K, Parson W, Eichmann C, Millinger S, **Fiegl H**, Margreiter R, Amberger A. Methylation status of the Ep-CAM promoter region in human breast cancer cell lines and breast cancer tissue. *Cancer Lett.* 2007;246(1-2):253-61.
24. Spruck C, Sun D, Muller-Holzner E, Marth C, **Fiegl H**, Goebel G, Widschwendter M and Reed I. Low Molecular Weight (LMW) forms of cyclin E correlate with gene expression in breast cancer. *Cancer Res.* 2006;66(14):7355-60.
25. Berger J, Mueller-Holzner E, **Fiegl H**, Marth C, Daxenbichler G. Evaluation of three mRNA markers for the detection of lymph node metastases. *Anticancer Res.* 2006;26(5B):3855-60.
26. Widschwendter M, **Fiegl H**, Egle D, Mueller-Holzner E, Spizzo G, Marth C, Weisenberger DJ, Campan M, Young J, Jacobs I, Laird PW. Epigenetic stem cell signature in cancer. *Nat Genet.* 2007;39(2):157-8.
27. **Fiegl H**, Elmasry K. Cancer diagnosis, risk assessment and prediction of therapeutic response by means of DNA methylation markers. *Dis Markers.* 2007;23(1-2):89-96.
28. Akhoondi S, Sun D, von der Lehr N, Apostolidou S, Klotz K, Maljukova A, Cepeda D, **Fiegl H**, Dafou D, Marth C, Mueller-Holzner E, Corcoran M, Dagnell M, Nejad SZ, Nayer BN, Zali MR, Hansson J, Egyhazi S, Petersson F, Sangfelt P, Nordgren H, Grandér D, Reed SI, Widschwendter M, Sangfelt O, Spruck C. FBXW7/hCDC4 is a general tumor suppressor in human cancer. *Cancer Res.* 2007;67(19):9006-12.
29. Oberwalder M, Zitt M, Wontner C, **Fiegl H**, Goebel G, Zitt M, Kohle O, Muhlmann G, Ofner D, Margreiter R, Muller HM. SFRP2 methylation in fecal DNA - a marker for colorectal polyps. *Int J Colorectal Dis.* 2008;23(1):15-9.
23. **Fiegl H**, Jones A, Hauser-Kronberger C, Hutarew G, Reitsamer R, Jones R, Dowsett M, Mueller-Holzner E, Windbichler G, Daxenbichler G, Goebel G, Ensinger C, Jacobs I, Widschwendter M.

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31. **Fiegl H**, Windbichler G, Mueller-Holzner E, Goebel G, Lechner M, Jacobs I, Widschwendter M. *HOXA11* DNA Methylation - A Novel Prognostic Biomarker in Ovarian Cancer. *Int J Cancer.* 2008;123(3):725-9.
 32. Widschwendter M, Apostolidou S, Raum E, Rothenbacher D, **Fiegl H**, Menon U, Stegmaier C, Jacobs IJ, Brenner H. Epigenotyping in peripheral blood cell DNA and breast cancer risk: a proof of principle study. *PLoS ONE.* 2008;3(7):e2656.
 33. Zeimet AG, Reimer D, Wolf D, **Fiegl H**, Concin N, Wiedemair A, Wolf AM, Rumpold H, Müller-Holzner E, Marth C. Intratumoral interferon regulatory factor (IRF)-1 but not IRF-2 is of relevance in predicting patient outcome in ovarian cancer. *Int J Cancer.* 2009;124(10):2353-60.
 34. Fourkala EO, Hauser-Kronberger C, Apostolidou S, Burnell M, Jones A, Grall J, Reitsamer R, **Fiegl H**, Jacobs I, Menon U, Widschwendter M. DNA methylation of polycomb group target genes in cores taken from breast cancer centre and periphery. *Breast Cancer Res Treat.* 2010;120(2):345-55.
 35. Goebel G, Pfeiffer KP, Schabetsberger T, Kalozy C, **Fiegl H**, Leitner K. Relevance and management of methylation data in electronic health records. *Stud Health Technol Inform.* 2009;150:135-9.
 36. Frenzel A, Labi V, Chmielewski W, Ploner C, Geley S, **Fiegl H**, Tzankov A, Villunger A. Suppression of B-cell lymphomagenesis by the BH3-only proteins Bmf and Bad. *Blood.* 2010;115(5):995-1005.
 37. Hofstetter G, Berger A, **Fiegl H**, Slade N, Zorić A, Holzer B, Schuster E, Mobus VJ, Reimer D, Daxenbichler G, Marth C, Zeimet AG, Concin N, Zeillinger R. Alternative splicing of p53 and p73: the novel p53 splice variant p53delta is an independent prognostic marker in ovarian cancer. *Oncogene.* 2010;29(13):1997-2004.
 38. Berger R*, **Fiegl H***, Goebel G, Obexer P, Ausserlechner M, Doppler W, Hauser-Kronberger C, Reitsamer R, Egle D, Reimer D, Müller-Holzner E, Jones A, Widschwendter M. Toll-like receptor 9 expression in breast and ovarian cancer is associated with poorly differentiated tumors. *Cancer Sci.* 2010;101(4):1059-66.
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 41. Zeimet AG, **Fiegl H***, Goebel G, Kopp F, Allasia C, Reimer D, Steppan I, Mueller-Holzner A, Ehrlich M, Marth C. DNA ploidy, nuclear size, proliferation index and DNA hypomethylation in ovarian cancer. *Gyn. Oncol.* 2011;121(1):24-31.
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 46. Tischner D, Drach M, **Fiegl H**, Villunger A. Mutual antagonism of TGF-beta and Interleukin-2 in cell survival and lineage commitment of induced regulatory T-cells. *Cell Death Differ.* 2012;19(8):1277-87.

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50. Mutz-Dehbalai I, Egle D, Fessler S, Hubalek M, **Fiegl H**, Marth C, Widschwendter A. HE4 is an independent prognostic marker in endometrial cancer patients. *Gynecol Oncol.* 2012;126(2):186-91.
51. Lirk P, Berger R, Hollmann MW, **Fiegl H**. Lidocaine time- and dose-dependently demethylates DNA in breast cancer cell lines in vitro. *Br J Anaesth.* 2012;109(2):200-7.
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55. De Araujo ME, Erhart G, Buck K, Müller-Holzner E, Hubalek M, **Fiegl H**, Campa D, Canzian F, Eilber U, Chang-Claude J, Coassin S, Haun M, Kedenko L, Paulweber B, Reitsamer R, Himmel I, Flesch-Janys D, Lamina C, Kronenberg F, Huber LA, Kloss-Brandstätter A. Polymorphisms in the gene regions of the adaptor complex LAMTOR2/LAMTOR3 and their association with breast cancer risk. *PLoS ONE* 2013;8(1): e53768.
56. Schirmer U, **Fiegl H**, Pfeifer M, Zeimet GA, Müller-Holzner E, Bode KP, Tischler V, Altevoigt P. Epigenetic regulation of L1CAM in endometrial carcinoma: comparison to cancer--testis (CT-X) antigens. *BMC Cancer*, 2013; 13:156. doi: 10.1186/1471-2407-13-156.
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60. Schirmer U, Doberstein K, Rupp AK, Bretz NP, Wuttig D, Kiefel H, **Fiegl H**, Müller-Holzner E, Zeillinger R, Schuster E, Zeimet AG, Sültmann H and Altevoigt P. Role of miR-34a as a suppressor of L1CAM in endometrial carcinoma. *Oncotarget* 2014;5(2):462-72.
61. Tymoszuk P, Charoentong P, Hackl H, Spilka R, Müller-Holzner E, Trajanoski Z, Obrist P, Revillion F, Peyrat JP, **Fiegl H**, Doppler W. High STAT1 mRNA levels but not its tyrosine phosphorylation are associated with macrophage infiltration and bad prognosis in breast cancer. *BMC Cancer.* 2014 Apr 12;14(1):257.
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64. Ratzinger G, Millinger S, Wolf B, Zelger B, Weinlich G, Fritsch P, Ratzinger G, Goebel G, **Fiegl H**. *TNFRSF10D* DNA methylation in melanoma. *Int J Mol Sci*. 2014;15(7):11984-95.
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* Die Autoren haben zu gleichen Teilen zu dieser Arbeit beigetragen

Drittmittelprojekte

Hauptantragsteller

- 2018: Ingrid Shaker Nessman
 Titel: The Mu Opioid Receptor as potential new target for cancer therapy in ovarian cancer
 Budget: 19.000 €
- 2015: Österreichische Krebshilfe-KG/ Tirol
 Titel: Identification of diagnostic biomarkers in endometrial cancer.
 Budget: 20.000 €
- 2011: FFG, K1 Oncotyrol phase II
 Titel: Prognostic & Predictive Biomarker Identification in Female Malignancies
 Budget: 351.111 € (cash: 255.555 €)
- 2010: FFG, K1 Oncostart
 Titel: Biomarker identification in ovarian cancer
 Budget: 90.000 € (cash: 60.000€)
- 2008: Österreichische Nationalbank Jubiläumsfonds:
 Titel: Identification of novel DNA methylation biomarkers – a possible strategy for melanoma risk assessment.
 Budget: 85.000 €
- 2007: Österreichische Krebshilfe-KG/ Tirol
 Titel: Characterization of CHAC1 in breast cancer cells.
 Budget: 5.030 €
- 2006: Elise Richter FWF Programme:
 Titel: Identification of potential targets for individualization of therapy in Tamoxifen resistant breast cancer.
 Budget: 131.948 €
- Medizinische Forschungsförderung Innsbruck:
 Titel: TLR9 mediated effects on breast cancer cells by means of extracellular DNA.
 Budget: 100.017 €
- 2005: Österreichische Nationalbank Jubiläumsfonds:
 Titel: DNA methylation and breast carcinogenesis
 Budget: 86.000 €

Mitantragsteller:

- 2015: Astra Zeneca:
 PI: Prof. Christian Marth
 Mitantragsteller: Assoc. Prof. Heidi Fiegl, Prof. Johannes Zschocke, Prof. Alain Zeimet,
 Titel: Comprehensive analysis of BRCA1/2 mutations and other genetic and epigenetic variants potentially linked to PARP inhibitor response in ovarian cancer; Phase II
 Budget: 120.000€
- 2014: Astra Zeneca:
 PI: Prof. Christian Marth
 Titel: Comprehensive analysis of BRCA1/2 mutations and other genetic and epigenetic variants potentially linked to PARP inhibitor response in ovarian cancer; Phase I

Mitantragsteller: Assoc. Prof. Heidi Fiegl, Prof. Johannes Zschocke, Prof. Alain Zeimet,
Budget: 86.000€

2008: FFG, K1 Oncostart

PI: Prof. Christian Marth

Mitantragsteller: Prof. Günter Daxenbichler, Dr. Heidi Fiegl

Titel: Breast Cancer - Metastases Risk

Budget: 1.813.050 € (cash: 1.378.106 €)