

## Research Profile

### Prof. Dr. Klaus Pantel



#### Personal data

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Name, degree, gender	Pantel, Klaus, Prof. Dr. med.
Date of birth:	3 <sup>rd</sup> August 1960
Institutional address:	Institute of Tumor Biology, University Hospital Hamburg-Eppendorf, Martinistrasse 52, 20246 Hamburg, Germany Phone: +49-40-74 10-53503, Fax: +49-40-74 10-55379 e-mail: <a href="mailto:pantel@uke.de">pantel@uke.de</a> web: <a href="http://www.uke.de/institutes/tumor-biology">www.uke.de/institutes/tumor-biology</a>
Current position	Director of Institute of Tumor Biology, Full Professor (C4) of Medicine, University Hospital Eppendorf (UKE), University of Hamburg, Germany
Children	2 children

#### Academic education and graduation

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05/1983 – 05/1987	University of Cologne, Medical Clinic I, Germany. Thesis: Mathematical Modeling in Hematopoiesis, Degree: Dr. med.
04/1980 – 05/1986	Study of Human Medicine, University of Cologne, School of Medicine, Germany. Degree: M.D.

#### Academic degrees

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05/1989 – 06/1995	Dr. med. habil. (“Associate Professor”), Medical Department of the Ludwig-Maximilians-Universität Munich, Institute of Immunology, Subject: Immunology (Immunocytochemical and molecular analyses on the diagnosis, clinical relevance and pathophysiology of minimal residual disease in cancer patients)
1987	Dr. med., University of Cologne Subject: Mathematical Modeling in Hematopoiesis

## Postgraduate career

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since 2016	Professor (10%) of Medicine, University of Bergen, Norway
since 2015	Member of the Executive Board of the University Cancer Center Hamburg – Hubertus Wald Tumor Center
since 06/2002	Director of the new Institute of Tumor Biology, Full Professor (C4) of Medicine, University Hospital Eppendorf (UKE), University of Hamburg, Germany
since 2002	Coordinator of the Oncology Research Program at UKE
09/2002 – 08/2008	Deputy Director of the new Center of Experimental Medicine, UKE
01/1999 – 05/2002	Professor (C3) in Molecular Genetics, Department of Gynecology and Obstetrics, University Hospital Eppendorf, University of Hamburg, Germany
	Head of Molecular Oncology, Department of Gynecology and Obstetrics, University Hospital Eppendorf, University of Hamburg, Germany
07/1995 – 12/1998	Associate Professor (“Privatdozent”), Institute of Immunology, Ludwig-Maximilians-University, Munich, Germany
06/1989 – 12/1998	Research Scientist, Head, Micrometastasis Research Laboratory, Institute for Immunology, Ludwig-Maximilians-University, Munich, Germany
	Head, Project Group “Early metastasis of epithelial tumours”, Tumor Centre Munich, Germany
	Scientific Head of the Animal Care Unit, Institute of Immunology
05/1987 – 05/1989	Postdoctoral DFG-Fellow , Research Associate, Division of Hematology and Oncology, Department of Internal Medicine, Wayne State University School of Medicine, Detroit, MI, USA
06/1986 – 04/1987	Research Associate, Department of Biostatistics, Medical Institute of Environmental Hygiene, Düsseldorf, Germany

## Editorial and Publishing Activities

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Cancer Research, Clinical Cancer Research, British Journal of Cancer,  
Molecular Oncology, Breast Cancer Research

## Selected Professional Memberships:

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since 2016	Member of the European Academy for Tumour Immunology
since 2010	Member of The New York Academy of Sciences
since 2007	Member of the Metastasis Research Society
since 1991	Member of the American Association for Cancer Research
since 1991	Member of the German Cancer Society
since 1990	Member of the German Societies for Immunology, Cell Biology, Hematology and Oncology

## Honours, distinctions, scholarships, awards:

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2011	Award of the Breast Cancer Survivor Group “mamazone” 2011, Augsburg
2011	<b>ERC (European Research Council) Advanced Investigators Grant</b>
2010	<b>AACR Outstanding Investigator Award for Breast Cancer Research, San Antonio</b>
2010	<b>German Cancer Award</b> 2010 (Translational Area), German Cancer Society, Berlin
2009	AIO Medical Oncology Scientific Award 2008, Berlin
2009	Wilhelm-Warner Award for Cancer Research 2008, Hamburg
2005	C. G. Schmidt Award for Cancer Research, Essen
2001	Brompton-Award of the European Society of Thoracic Surgeons
1998	Walter-Schulz Fund Award, Munich
1997	Publication Award of the Scientific Committee of the European Society of Thoracic Surgeons
1996	Georg-Ernst-Konjetzny Award of the Hamburger Krebsgesellschaft together with S. Hosch & J.R. Izbicki
1995	Award of the Johann-Georg-Zimmermann Fund, Hannover together with G. Schaller Publication Award 1995 of the German Society of Thoracic Surgeons together with B. Passlick, Senior author: K. Pantel
1994	Georg-Ernst-Konjetzny-Award of the Hamburg Cancer Society together with B. Passlick, J.R. Izbicki, G. Riethmüller
1992	Gerhard-Domagk Award for Clinical and Experimental Cancer Research, Münster together with G. Riethmüller, I. Funke, G. Schlimok.
1990	ISEH New Investigator Award, International Society for Experimental Hematology, 19 <sup>th</sup> Annual Meeting, Seattle, WA, USA.
1988	Postdoctoral Fellow of the German Research Foundation (“Deutsche Forschungsgemeinschaft”)
1987	Research stipend of the Dr. Mildred Scheel Foundation/German Cancer Aid Fund

## Other

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### Scientific coordinator of the following projects:

CANCER-ID IMI EU, 01/2015 – 12/2019, 60 calendar months

EU Innovative Medicines Joint Undertaking (IMI JU) Call

“Cancer treatment and monitoring through identification of circulating tumour cells and tumour related nucleic acids in blood”, 37 European partners

LIQUOPSY, 05/2014 – 04/2016, 24 calendar months

EU/BMBF (Federal Ministry of Education and Research)

“Liquid biopsy: In vivo capturing and molecular characterization of circulating tumor cells as a novel tool for improving tertiary prevention in breast cancer”, 3 European partners

TRANSCAN ERA-Network 06/2013 – 05/2016, 36 calendar months

EU/BMBF (Federal Ministry of Education and Research)

"Circulating Tumor Cells as Biomarker for Minimal Residual Disease in Prostate Cancer",  
CTC-SCAN, 6 European partners

**PI of the following projects (selection):**

DFG 1/2016 – 12/2019, 36 calendar months, PA 341/19-2

“Functional characterization of the putative metastasis suppressor protein RAI2”

CTCapture\_2.0, 2017 – 2018, 18 calendar months

EU Horizon 2020 Excellent Science, Call: ERC-2016-PoC-DL3

“Advanced platform for profiling of therapeutic targets and functional analysis of circulating tumour cells in cancer patients”

DISSECT, 8/2011 – 7/2016, 60 calendar months

ERC Advanced Investigator Grant ERC-2010-AsG\_20100317

“Disseminating tumour cells as novel biomarkers: Dissecting the metastatic cascade in cancer patients”

**Organization of International Meetings and Workshops:**

1996 – 2016

1<sup>st</sup> - 10<sup>th</sup> International Symposium on Minimal Residual Cancer, Paris, Osaka, Athens, Hamburg, San Francisco, Oslo, Berlin, Munich

2008 - 2017

Advances in Circulating Tumor Cells (ACTC) conferences, together with Prof. Evi Lianidou, Athens, Greece

2006

Workshop on Tumor Cell Dormancy, NIH, Bethesda, USA

**Management:**

1994

Co-founder of Micromet GmbH, Martinsried, Germany; one of the most successful German biotech spin-offs acquired by AMGEN in 2012

2002

Founder and Chairman, Institute of Tumor Biology, UKE, Hamburg

2002 – 2008

Deputy Director of the Center of Experimental Medicine (> 800 researchers and technicians), UKE

2015 – present

Executive Board Member, Comprehensive Cancer Center, Hamburg

2005 – present

Coordinator of European Research Networks (see above)

**Patents**

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- EPO patent registration No. 95108760.7 “Immortalized epithelial cells”
- EPO patent application No. 07825055.2 “Released cytokeratins as markers for epithelial cells”
- EPO patent application No. 10004180.5 “Method of determining the metastatic potential of a tumor”
- EPO patent application No. 2016128125 A1 “Immobilization of cells or virus particles on protein structures using a microfluidic chamber”
- EPO patent application No.17157020.3 – 1405 “Method of detecting cancer or cancer cells”

## Selected Publications

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More than 450 publications, h-index: 81

- Bardelli A, Pantel K. Liquid Biopsies, What We Do Not Know (Yet). *Cancer Cell* 2017;31: 172-9.
- Alix-Panabieres C, Pantel K. Clinical Applications of Circulating Tumor Cells and Circulating Tumor DNA as Liquid Biopsy. *Cancer Discov.* 2016;6: 479-91.
- Werner S, Brors B, Eick J, Marques E, Pogenberg V, Parret A, Kemming D, Wood AW, Edgren H, Neubauer H, Streichert T, Riethdorf S, Bedi U, Baccelli I, Jucker M, Eils R, Fehm T, Trumpp A, Johnsen SA, Klefstrom J, Wilmanns M, Muller V, Pantel K\*, Wikman H\*. Suppression of early hematogenous dissemination of human breast cancer cells to bone marrow by retinoic Acid-induced 2. *Cancer Discov.* 2015;5: 506-19. (\*shared senior author)
- Alix-Panabieres C, Pantel K. Challenges in circulating tumour cell research. *Nature Rev. Cancer* 2014;14: 623-31.
- Bidard FC, Peeters DJ, Fehm T, Nole F, Gisbert-Criado R, Mavroudis D, Grisanti S, Generali D, Garcia-Saenz JA, Stebbing J, Caldas C, Gazzaniga P, Manso L, Zamarchi R, de Lascoiti AF, De Mattos-Arruda L, Ignatiadis M, Lebofsky R, van Laere SJ, Meier-Stiegen F, Sandri MT, Vidal-Martinez J, Politaki E, Consoli F, Bottini A, Diaz-Rubio E, Krell J, Dawson SJ, Raimondi C, Rutten A, Janni W, Munzone E, Caranana V, Agelaki S, Almici C, Dirix L, Solomayer EF, Zorzino L, Johannes H, Reis-Filho JS, Pantel K\*, Pierga JY\*, Michiels S\*. Clinical validity of circulating tumour cells in patients with metastatic breast cancer: a pooled analysis of individual patient data. *Lancet Oncol.* 2014;15: 406-14. (\*shared senior authorship)
- Muller C, Holtschmidt J, Auer M, Heitzer E, Lamszus K, Schulte A, Matschke J, Langer-Freitag S, Gasch C, Stoupien M, Mauermann O, Peine S, Glatzel M, Speicher MR, Geigl JB, Westphal M, Pantel K\*, Riethdorf S. Hematogenous dissemination of glioblastoma multiforme. *Sci. Transl. Med.* 2014;6: 247ra101. (\*shared senior authorship)
- Yokobori T, Iinuma H, Shimamura T, Imoto S, Sugimachi K, Ishii H, Iwatsuki M, Ota D, Ohkuma M, Iwaya T, Nishida N, Kogo R, Sudo T, Tanaka F, Shibata K, Toh H, Sato T, Barnard GF, Fukagawa T, Yamamoto S, Nakanishi H, Sasaki S, Miyano S, Watanabe T, Kuwano H, Mimori K, Pantel K\*, Mori M. Platin3 is a novel marker for circulating tumor cells undergoing the epithelial-mesenchymal transition and is associated with colorectal cancer prognosis. *Cancer Res* 2013;73: 2059-69 (\*shared senior authorship).
- Pantel K, Diaz LA, Jr., Polyak K. Tracking tumor resistance using 'liquid biopsies'. *Nat. Med.* 2013;19: 676-7.
- Kang Y, Pantel K. Tumor cell dissemination: emerging biological insights from animal models and cancer patients. *Cancer Cell* 2013;23: 573-81.
- Uhr JW, Pantel K. Controversies in clinical cancer dormancy. *Proc. Natl. Acad. Sci. U. S. A.* 2011;108: 12396-400.
- Kollermann J, Weikert S, Schostak M, Kempkensteffen C, Kleinschmidt K, Rau T, Pantel K. Prognostic significance of disseminated tumor cells in the bone marrow of prostate cancer patients treated with neoadjuvant hormone treatment. *J. Clin. Oncol.* 2008;26: 4928-33.
- Pantel K, Brakenhoff RH, Brandt B. Detection, clinical relevance and specific biological properties of disseminating tumour cells. *Nat. Rev. Cancer* 2008;8: 329-40.
- Braun S, Vogl FD, Naume B, Janni W, Osborne MP, Coombes RC, Schlimok G, Diel IJ, Gerber B, Gebauer G, Pierga JY, Marth C, Oruzio D, Wiedswang G, Solomayer EF, Kundt G, Strobl B, Fehm T, Wong GY, Bliss J, Vincent-Salomon A, Pantel K. A pooled analysis of bone marrow micrometastasis in breast cancer. *N. Engl. J. Med.* 2005;353: 793-802.
- Solakoglu O, Maierhofer C, Lahr G, Breit E, Scheunemann P, Heumos I, Pichlmeier U, Schlimok G, Oberneder R, Kollermann MW, Kollermann J, Speicher MR, Pantel K. Heterogeneous proliferative potential of occult metastatic cells in bone marrow of patients with solid epithelial tumors. *Proc. Natl. Acad. Sci. U. S. A.* 2002;99: 2246-51.
- Braun S, Pantel K, Muller P, Janni W, Hepp F, Kentenich CR, Gastroph S, Wischnik A, Dimpfl T, Kindermann G, Riethmuller G, Schlimok G. Cytokeratin-positive cells in the bone marrow and survival of patients with stage I, II, or III breast cancer. *N. Engl. J. Med.* 2000;342: 525-33.

- Pantel K, Passlick B, Vogt J, Stosiek P, Angstwurm M, Seen-Hibler R, Haussinger K, Thetter O, Izbicki JR, Riethmuller G. Reduced expression of plakoglobin indicates an unfavorable prognosis in subsets of patients with non-small-cell lung cancer. *J. Clin. Oncol.* 1998;16: 1407-13.
- Izbicki JR, Hosch SB, Pichlmeier U, Rehders A, Busch C, Niendorf A, Passlick B, Broelsch CE, Pantel K. Prognostic value of immunohistochemically identifiable tumor cells in lymph nodes of patients with completely resected esophageal cancer. *N. Engl. J. Med.* 1997;337: 1188-94.
- Pantel K, Izbicki J, Passlick B, Angstwurm M, Haussinger K, Thetter O, Riethmuller G. Frequency and prognostic significance of isolated tumour cells in bone marrow of patients with non-small-cell lung cancer without overt metastases. *Lancet* 1996;347: 649-53.