

# PUSCH, STEFAN, DR. RER. NAT.

## GENERAL INFORMATION



### Post Doc

University Hospital Heidelberg, Institute of Pathology, Dep. of  
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B03

## ACADEMIC EDUCATION & QUALIFICATION

Year(s)	Education
2004	Diploma degree in biology; supervisor: Prof. Dr. Arp Schnittger (MPIZ); overall grade 1
1999-2004	Study of biology at the University of Cologne; biochemistry, botany, organic chemistry

## SCIENTIFIC EDUCATION & QUALIFICATION

Year(s)	Education
2008	PhD degree in biology; supervisor: Prof. Dr. Arp Schnittger (MPIZ); overall grade 1
2004-2008	PhD studies at the Max-Planck Institute for plant breeding research (MPIZ)

## PROFESSIONAL EXPERIENCE

Year(s)	Experience
2017- ongoing	Postdoc at the University Hospital Heidelberg, in the group of Prof. von Deimling
2009-2017	Postdoc at the German Cancer Research Institute (DKFZ) in the group of Prof. von Deimling

## OTHER QUALIFICATIONS/ROLES/RESPONSIBILITIES

Year(s)	
2013	Achieved the „Baden-Württemberg Zertifikat für Hochschuldidaktik“
2010	Qualification for project leader / officer for biological safety

## SELECTED PUBLICATIONS

1. Bunse L, Pusch S, Bunse T, Sahm F, Sanghvi K, Friedrich M, Alansary D, Sonner JK, Green E, Deumelandt K, Kilian M, Neftel C, Uhlig S, Kessler T, von Landenberg A, Berghoff AS, Marsh K, Steadman M, Zhu D, Nicolay B, Wiestler B, Breckwoldt MO, Al-Ali R, Karcher-Bausch S, Bozza M, Oezen I, Kramer M, Meyer J, Habel A, Eisel J, Poschet G, Weller M, Preusser M, Nadji-Ohl M, Thon N, Burger MC, Harter PN, Ratliff M, Harbottle R, Benner A, Schrimpf D, Okun J, Herold-Mende C, Turcan S, Kaulfuss S, Hess-Stumpp H, Bieback K, Cahill DP, Plate KH, Hänggi D, Dorsch M, Suvà ML, Niemeyer BA, von Deimling A, Wick W, Platten M. Suppression of antitumor T cell immunity by the oncometabolite (R)-2-hydroxyglutarate. **Nat Med** 2018;24(8):1192-1203
2. Pusch S, Krausert S, Fischer V, Balss J, Ott M, Schrimpf D, Capper D, Sahm F, Eisel J, Beck A, Jugold M, Eichwald V, Kaulfuss S, Pankin O, Rehwinkel H, Zimmermann K, Hillig RC, Guenther J, Toschi L, Neuhaus R, Haegbart A, Hess-Stumpp H, Bauser M, Wick W, Unterberg A, Herold-Mende C, Platten M, von Deimling A. Pan-IDH1 mutant inhibitor BAY 1436032 effectively treats IDH1 mutant astrocytoma in vivo. **Acta Neuropathologica** 2017;133, 629-644
3. Chaturvedi A, Herbst L, Pusch S, Klett L, Goparaju R, Stichel D, Kaulfuss S, Pankin O, Zimmermann K, Toschi L, Neuhaus R, Haegbart A, Rehwinkel H, Hess-Stumpp H, Bauser M, Bochtler T, Struys EA, Sharma A, Bakkali A, Geffers R, Araujo-Cruz MM, Thol F, Gabdoulline R, Ganser A, Ho AD, von Deimling A, Rippe K,

- Heuser M, Krämer A. Pan-Mutant-IDH1 Inhibitor BAY1436032 is Highly Effective Against Human IDH1 Mutant Acute Myeloid Leukemia in Vivo. **Leukemia** 2017;31(10):2020-2028
4. Weiler M, Blaes J, Pusch S, Sahm F, Czabanka M, Luger S, Bunse L, Solecki G, Eichwald V, Jugold M, Hodecker S, Osswald M, Meisner C, Hielscher T, Rübmann P, Pfenning PN, Ronellenfisch M, Kempf T, Schnölzer M, Abdollahi A, Lang F, Bendszus M, von Deimling A, Winkler F, Weller M, Vajkoczy P, Platten M, Wick W. mTOR target NDRG1 confers MGMT-dependent resistance to alkylating chemotherapy. **Proc Natl Acad Sci** 2014;111, 409-414.
  5. Voelxen NF, Walenta S, Proescholdt M, Dettmer K, Pusch S, Mueller-Klieser W. Quantitative Imaging of D-2-Hydroxyglutarate in Selected Histological Tissue Areas by a Novel Bioluminescence Technique **Front Oncol** 2016;6:46.
  6. Osswald M, Jung E, Sahm F, Solecki G, Venkataramani V, Blaes J, Weil S, Horstmann H, Wiestler B, Syed M, Huang L, Ratliff M, Karimian Jazi K, Kurz FT, Schmenger T, Lemke D, Gömmel M, Pauli M, Liao Y, Häring P, Pusch S, Herl V, Steinhäuser C, Krunic D, Jarahian M, Miletic H, Berghoff AS, Griesbeck O, Kalamakis G, Garaschuk O, Preusser M, Weiss S, Liu H, Heiland S, Platten M, Huber PE, Kuner T, von Deimling A, Wick W, Winkler F. Brain tumour cells interconnect to a functional and resistant network. **Nature** 2015;528, 93-98
  7. Bunse L, Schumacher T, Sahm F, Pusch S, Oezen I, Rauschenbach K, Gonzalez M, Solecki G, Osswald M, Capper D, Wiestler B, Winkler F, Herold-Mende C, von Deimling A, Wick W, Platten M. Proximity ligation assay evaluates IDH1R132H presentation in gliomas. **J Clin Invest** 2015;125, 593-606
  8. Schumacher T, Bunse L, Pusch S, Sahm F, Wiestler B, Quandt J, Menn O, Osswald M, Oezen I, Ott M, Keil M, Balß J, Rauschenbach K, Grabowska AK, Vogler I, Diekmann J, Trautwein N, Eichmüller SB, Okun J, Stevanović S, Riemer AB, Sahin U, Friese MA, Beckhove P, von Deimling A, Wick W, Platten M. A vaccine targeting mutant IDH1 induces antitumour immunity. **Nature** 2014;512, 324-327
  9. Pusch S, Schweizer L, Beck AC, Lehmler JM, Weissert S, Balss J, Miller AK, von Deimling A. D-2-Hydroxyglutarate producing neo-enzymatic activity inversely correlates with frequency of the type of isocitrate dehydrogenase 1 mutations found in glioma. **Acta Neuropathol Commun** 2014;2:19
  10. Balss J, Pusch S, Beck AC, Herold-Mende C, Krämer A, Thiede C, Buckel W, Langhans CD, Okun JG, von Deimling A. Enzymatic assay for quantitative analysis of (D)-2-hydroxyglutarate. **Acta Neuropathol** 2012;124, 883-891

## PATENTS

- “Means and methods for the determination of (D)-2-hydroxyglutarate (D2HG)”, an enzymatic 2-HG assay used for 2-HG determination (WO2013127997A1).
- I am co-inventor of BAY 1436032, which is currently being tested in clinical phase I, and thereby eligible for possible royalties. All terms are being managed by the German Cancer Research Center in accordance with its conflict of interest policies.