

DAVID VIERTL, Ph.D.

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Professional Experience

Since September 2020

microPET/SPECT/CT specialist at the In vivo Imaging Facility (Dr A. Benechet, UNIL/CHUV) — Position at 50%

Installation and managing of the microPET/SPECT/CT imaging laboratory.

Design, management and analysis of preclinical molecular imaging.

Radioprotection expert and animal welfare officer for the laboratory.

Since July 2014

Research associate and head of microPET/SPECT/CT at the Laboratory of Translational Radiopharmaceutical Sciences (Prof. M. Schottelius, UNIL/CHUV) — Position at 50%

Development of radiotracers and their translation into clinic (*i.e* NCT03468582).

Radiolabeling of clinical and preclinical compounds.

Design, management and analysis of preclinical imaging.

Radioprotection expert and animal welfare officer for the laboratory.

PostDoc at the Surgical Research Laboratory (Prof. L. Bühler, HUG)

Preclinical studies of new radioisotopes for the treatment of brain and pancreatic cancer using *in vivo* models and microPET/SPECT/CT imaging.

August 2010 to June 2014

PostDoc at the Department of Radiation Oncology (Prof J. Buhris, CHUV)

Preclinical studies and validation of radio-sensitization effects of peptides and chemical compounds in *in vitro* and *in vivo* models in collaboration with Debiopharm Group.

Xevinapant (DEBIO 1143 licensed to Merck) and clinical trial (NCT01930292).

September 2006 to June 2010

Ph.D. student in life science (Prof. A. Bischof Delaloye, Dr PD F. Buchegger CHUV)

In vivo and *in vitro* study of enhanced cellular incorporation of [¹²⁵I]-IdUrd and [¹⁸F]-FLT radionucleotide and cell cycle alteration induced by FdUrd for cancer diagnosis and therapy purpose. Clinical trial 2010DR1151.

March 2005 to September 2006

Research assistant at the Laboratory of Molecular Neurobiology and Functional Neuroproteomics (Prof. H. Lashuel, EPFL) and the laboratory of Physics of Living Matter (Prof. G. Dietler, EPFL)

Technical Skills

Excellent transversal biology and chemistry knowledge in nuclear medicine and radiopharmacy.

- Radiolabeling and radio-iodination of research peptide and antibody.
- Preparation of radiopharmaceutical (kit and unregistered preparation).
- Quality control of radiotracers.
- Animal imaging (microPET/SPECT/CT, MRI).
- Animal experimentation (small surgery, xenograft).
- Protein expression and purification (FPLC, HPLC, MS).
- Protein characterization (BiaCore, AFM, spectroscopy).
- Cell mechanism (IP, WB, flow cytometry, confocal and fluorescence microscopy).
- Cell survival assay (clonogenic assay, TUNEL, MTT).
- Writing scientific publications, research proposals and authorization applications to regulatory authorities (SFN, Swissmedic, ethics committee, animal experiment authorization, IB).

Other Formations & Skills

European Drug Legislation, Quality Assurance and GMP (September 2017)

Radiopharmacology and Clinical Radiopharmacy (September 2016)

Radiopharmaceutical Chemistry (February 2016)

Expert in radioprotection Laboratory Type B and C (October 2015)

Project management (December 2011)

Animal care and experimentation Module II (September 2011)

Clinical research investigator. Co-investigator level 1 (July 2010)

Proficient on Windows, MacOS and Linux operating systems, skilled in Microsoft office suits, GraphPad Prism, PMOD and numerous instrument softwares.

Languages:	French,	native language
	English,	fluently written and spoken
	German	written and spoken

Teaching & Mentoring

Since 2018: “Translational research in medical imaging: molecular imaging of small animal” 1h lecture in “Introduction to Clinical Medicine” course for FBM-BIO student.

Since 2021: “Molecular imaging with small animal PET/SPECT/CT” 1h lecture in “In Vivo Imaging Facility Seminars” for FBM/UNIL student.

Regular mentoring of PhD, Master Thesis and fellowship students.

Publication List

1. Impact of DOTA Conjugation on Pharmacokinetics and Immunoreactivity of [177Lu]Lu-1C1m-Fc, an Anti TEM-1 Fusion Protein Antibody in a TEM-1 Positive Tumor Mouse Model
Delage, J.A.; Faivre-Chauvet, A.; Barbet, J.; Fierle, J.K.; Schaefer, N.; Coukos, G.; **Viertl, D.**; Dunn, S.M.; Gnesin, S.; Prior, J.O.
Pharmaceutics. 2021; 13(1):96
2. Biological evaluation of new TEM1 targeting recombinant antibodies for radioimmunotherapy: In vitro, in vivo and in silico studies.
D'Onofrio A, Gano L, Melo R, Mendes F, Oliveira MC, Denoël T, Schaefer N, **Viertl D**, Fierle J, Coukos G, Dunn S, Prior JO, Paulo A.
Eur J Pharm Biopharm. 2021 Jan;158:233-244. doi: 10.1016/j.ejpb.2020.11.015. Epub 2020 Nov 30. PMID: 33271301
3. 177 Lu radiolabeling and preclinical theranostic study of 1C1m-Fc: an anti-TEM-1 scFv-Fc fusion protein in soft tissue sarcoma
J A Delage, A Faivre-Chauvet, J K Fierle, S Gnesin, N Schaefer, G Coukos, S M Dunn, **D Viertl**, J O Prior
EJNMMI Res. 2020 Aug 17;10(1):98. doi: 10.1186/s13550-020-00685-3.
4. Preclinical Evaluation and Dosimetry of [111In]CHX-DTPA-scFv78-Fc Targeting Endosialin/Tumor Endothelial Marker 1 (TEM1).
Cicone F, Denoël T, Gnesin S, Riggi N, Irving M, Jakka G, Schaefer N, **Viertl D**, Coukos G, Prior JO.
Mol Imaging Biol. 2020 Jan 28. doi: 10.1007/s11307-020-01479-8. [Epub ahead of print] Erratum in: Mol Imaging Biol. 2020 Mar 20.
5. Internal radiation dosimetry of a 152Tb-labeled antibody in tumor-bearing mice.
Cicone F, Gnesin S, Denoël T, Stora T, van der Meulen NP, Müller C, Vermeulen C, Benešová M, Köster U, Johnston K, Amato E, Auditore L, Coukos G, Stabin M, Schaefer N, **Viertl D**, Prior JO.
EJNMMI Res. 2019 Jun 11;9(1):53. doi: 10.1186/s13550-019-0524-7.
6. Low-Dose Imaging in a New Preclinical Total-Body PET/CT Scanner.
Molinos C, Sasser T, Salmon P, Gsell W, **Viertl D**, Massey JC, Mińczuk K, Li J, Kundu BK, Berr S, Correcher C, Bahadur A, Attarwala AA, Stark S, Junge S, Himmelreich U, Prior JO, Laperre K, Van Wyk S, Heidenreich M.
Front Med (Lausanne). 2019 May 3;6:88. doi: 10.3389/fmed.2019.00088. eCollection 2019.
7. First in-human radiation dosimetry of 68Ga-NODAGA-RGDyK.
Gnesin S, Mitsakis P, Cicone F, Deshayes E, Dunet V, Gallino AF, Kosinski M, Baechler S, Buchegger F, **Viertl D**, Prior JO.
EJNMMI Res. 2017 Dec;7(1):43. doi: 10.1186/s13550-017-0288-x. Epub 2017 May 18.
8. Cardiac Radionuclide Imaging in Rodents: A Review of Methods, Results, and Factors at Play.
Cicone F, **Viertl D**, Quintela Pousa AM, Denoël T, Gnesin S, Scopinaro F, Vozenin MC, Prior JO.
Front Med (Lausanne). 2017 Mar 29;4:35. doi: 10.3389/fmed.2017.00035. eCollection 2017.
9. TAT-RasGAP317-326 Enhances Radiosensitivity of Human Carcinoma Cell Lines In Vitro and In Vivo through Promotion of Delayed Mitotic Cell Death.
Tsoutsou P, Annibaldi A, **Viertl D**, Ollivier J, Buchegger F, Vozenin MC, Bourhis J, Widmann C, Matzinger O.
Radiat Res. 2017 May;187(5):562-569. doi: 10.1667/RR14509.1. Epub 2017 Mar 21.
10. CERN-MEDICIS (Medical Isotopes Collected from ISOLDE): a new facility.
Viertl D, Buchegger F, Prior JO, Forni M, Morel P, Ratib O, Bühler Léo H, Stora T; CERN_MEDICIS collaboration.
Rev Med Suisse. 2015 Jun 17;11(479):1340-4. French.
11. The radiosensitizing activity of the SMAC-mimetic, Debio 1143, is TNF α -mediated in head and neck squamous cell carcinoma.
Matzinger O, **Viertl D**, Tsoutsou P, Kadi L, Rigotti S, Zanna C, Wiedemann N, Vozenin MC, Vuagniaux G, Bourhis J.

- Radiother Oncol. 2015 Sep;116(3):495-503. doi: 10.1016/j.radonc.2015.05.017. Epub 2015 Jun 18.
12. Fragment N2, a caspase-3-generated RasGAP fragment, inhibits breast cancer metastatic progression.
Barras D, Lorusso G, Lhermitte B, **Viertl D**, Rüegg C, Widmann C.
Int J Cancer. 2014 Jul 1;135(1):242-7. doi: 10.1002/ijc.28674. Epub 2014 Mar 4.
 13. 18F-FLT and 125I-IdUrd uptake increase in human tumour cell lines induced by the thymidylate synthase inhibitor FdUrd.
Viertl D, Perillo-Adamer F, André PA, Ametamey SM, Ross TL, Kosinski M, Dupertuis YM, Bischof Delaloye A, Buchegger F.
Nuklearmedizin. 2012 May 11;51(5). Epub ahead of print
 14. 68Ga-NODAGA-RGDyK for $\alpha\beta 3$ integrin PET imaging. Preclinical investigation and dosimetry.
Buchegger F, **Viertl D**, Baechler S, Dunet V, Kosinski M, Poitry-Yamate C, Rüegg C, Prior JO.
Nuklearmedizin. 2011;50(6):225-33. Epub 2011 Oct 11.
 15. Antitumour effects of single or combined monoclonal antibodies directed against membrane antigens expressed by human B cells leukaemia.
Loisel S, André PA, Golay J, Buchegger F, Kadouche J, Cérutti M, Bologna L, Kosinski M, **Viertl D**, Delaloye AB, Berthou C, Mach JP, Boumsell L.
Mol Cancer. 2011 Apr 19;10:42.
 16. Increase of [(18)F]FLT tumor uptake in vivo mediated by FdUrd: toward improving cell proliferation positron emission tomography.
Viertl D, Bischof Delaloye A, Lanz B, Poitry-Yamate C, Gruetter R, Mlynarik V, Ametamey SM, Ross TL, Lehr HA, André PA, Perillo-Adamer F, Kosinski M, Dupertuis YM, Buchegger F.
Mol Imaging Biol. 2011 Apr;13(2):321-31.
 17. Charge dependent substrate activity of C3' and N3 functionalized, organometallic technetium and rhenium-labeled thymidine derivatives toward human thymidine kinase 1.
Struthers H, **Viertl D**, Kosinski M, Spingler B, Buchegger F, Schibli R.
Bioconjug Chem. 2010 Apr 21;21(4):622-34.
 18. Amyloid-beta aggregates cause alterations of astrocytic metabolic phenotype: impact on neuronal viability.
Allaman I, Gavillet M, Bélanger M, Laroche T, **Viertl D**, Lashuel HA, Magistretti PJ.
J Neurosci. 2010 Mar 3;30(9):3326-38.
 19. Fluorodeoxyuridine mediated cell cycle synchronization in S-phase increases the Auger radiation cell killing with 125I-iododeoxyuridine.
Perillo-Adamer F, Kosinski M, Dupertuis YM, **Viertl D**, Bischof Delaloye A, Buchegger F.
Nuklearmedizin. 2009;48(6):233-42. Epub 2009 Oct 1.
 20. Branched KLVFF tetramers strongly potentiate inhibition of beta-amyloid aggregation.
Chafekar SM, Malda H, Merx M, Meijer EW, **Viertl D**, Lashuel HA, Baas F, Scheper W.
Chembiochem. 2007 Oct 15;8(15):1857-64.
 21. Tomosyn-1 is involved in a post-docking event required for pancreatic beta-cell exocytosis.
Cheviet S, Bezzi P, Ivarsson R, Renström E, **Viertl D**, Kasas S, Catsicas S, Regazzi R.
J Cell Sci. 2006 Jul 15;119(Pt 14):2912-20. Epub 2006 Jun 20.