



Dr. rer. nat. Beatrice Stefanie Ludwig

Master of Science (Chemie)

German Patent Attorney

Languages

German, English, Romanian, Italian

Contact

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Technical Expertise

Chemie

Green Technologies

Pharma

Materials Science



Legal Expertise

Patent and Utility Model Protection

Opposition and Appeal Proceedings

Patent Infringement and Nullity
Proceedings

Dr. Beatrice Ludwig holds a degree in chemistry and was admitted as a German Patent Attorney in 2025.

Legal Practice

Dr. Beatrice Ludwig has been working in the field of intellectual property since 2022. After completing her training at a renowned patent law firm in Munich and working for different patent law firms in Munich, Dr. Ludwig joined the law firm Wallinger Ricker Schlotter in 2025.

Her practice focuses on drafting patent applications and conducting European patent prosecution and opposition proceedings as well as preparing FTO opinions.



Dr. rer. nat. Beatrice Stefanie Ludwig

Master of Science (Chemie)

Career

seit 2025

Patent attorney at WR, admitted as German Patent Attorney

seit 2022

Active in the field of intellectual property
Training as a patent attorney at a renowned patent law firm in München, the German Patent and Trademark Office and the Federal Patent Court

2018–2022

Research Fellow at the the Department of Nuclear Medicine, University Hospital Klinikum Rechts der Isar and Central Institute for Translational Cancer Research (TranslaTUM), Technical University Munich, completed with “summa cum laude”

2015–2017

Study of Chemistry with focus on organic chemistry and biochemistry at the Technical University of Munich (M.Sc.)

2012–2015

Study of Chemistry at the Technical University of Munich (B.Sc.)



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Technical Background

Dr. Ludwig completed her studies in chemistry at the Technical University of Munich with a focus on organic and medicinal chemistry, biochemistry, molecular biology, polymer chemistry, and radiopharmacy. During her doctorate at the Department of Nuclear Medicine, University Hospital Klinikum Rechts der Isar and Central Institute for Translational Cancer Research (TranslaTUM), Technical University Munich, in the working group of Prof. Dr. Susanne Kossatz, completed with „summa cum laude“, she focused on the design and biological evaluation of small molecule ligands for selective delivery of therapeutic substances to tumor cells. In addition, she designed selective poly (ADP-ribose) polymerase inhibitors (inhibitors of the DNA repair mechanism), which can be integrated in both theranostic strategies and combination therapy regimes for prostate cancer.

Due to her professional background, Dr. Ludwig possesses broad technical expertise spanning organic chemistry, inorganic chemistry, radiochemistry, biochemistry, (radio)pharmacy, medical engineering, molecular biology, and polymer chemistry.



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Memberships

+ Chamber of Patent Attorneys (PAK)

Publications

- + B. S. Ludwig, N. Krautkremer, S. Tomassi, S. Di Maro, F. S. Di Leva, A. Benge, M. Nieberler, H. Kessler, L. Marinelli, S. Kossatz, U. Reuning, "Switching Roles – Exploring Concentration-Dependent Agonistic versus Antagonistic Behavior of Integrin Ligands", J. Med. Chem. 2025, 68, 4334-4351
- + N. G. Quigley, M. A. Zierke, B. S. Ludwig, F. Richter, N. Nguyen, F. Reissig, J. Šimeček, S. Kossatz, J. Notni, "The importance of tyrosines in multimers of cyclic RGD nonapeptides: towards $\alpha v \beta 6$ -integrin targeted radiotherapeutics", RSC Med. Chem. 2024
- + V. M. D'Amore, G. Donati, E. Lenci, B. S. Ludwig, S. Kossatz, M. Baiula, A. Trabocchi, H. Kessler, F. Di Leva, L. Marinelli, "A Molecular View on the iRGD Peptide Binding Mechanism: Implications for Integrin Activity and Selectivity Profile", J. Chem. Inf. Model. 2023, 63, 6302-6315
- + L. J. Flitsch, K. Börner, C. Stüllein, S. Ziegler, V. Sonntag-Buck, E. Wiedtke, V. Semkova, S. W. C. A. Yeung, J. Schlee, M. Hajo, M. Mathews, B. S. Ludwig, S. Kossatz, H. Kessler, D. Grimm, O. Brüstle, "Identification of adeno-associated virus variants for gene transfer into human neural cell types by parallel capsid screening", Sci. Rep. 2022, 12, 8356
- + B. S. Ludwig, H. Kessler, S. Kossatz, U. Reuning, "RGD-binding integrins revisited: how recently discovered functions and novel synthetic ligands (re-) shape an ever-evolving field", Cancers 2021, 13, 1711
- + B. S. Ludwig, S. Tomassi, S. Di Maro, F. S. Di Leva, A. Benge, F. Reichart, M. Nieberler, F. E. Kühn, H. Kessler, L. Marinelli, U. Reuning, S. Kossatz, "The organometallic ferrocene exhibits amplified antitumor activity by targeted delivery via highly selective ligands to $\alpha v \beta 3$, $\alpha v \beta 6$, or $\alpha 5 \beta 1$ integrins", Biomaterials 2021, 271, 120754
- + P. Nicol, C. Lutter, A. Bulin, M. I. Castellanos, T. Lenz, P. Hoppmann, A. L. Lahmann, R. Colleran, K. Euller, K. Steigerwald, S. Neubauer, F. Rechenmacher, B. S. Ludwig, M. Weinmüller, G. Kerch, L. Gou, Q. Cheng, E. Acampado, T. Koppara, H. Kessler, M. Jöner, "Assessment of a pro-healing stent in an animal model of early neoatherosclerosis", Sci. Rep. 2020, 10, 8227



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Patent applications | Awards



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- + M. Bonus, A. Sommerfeld, N. Qvartskhava, B. Görg, B. S. Ludwig, H. Kessler, H. Gohlke, D. Häussinger, "Evidence for functional selectivity in TUDC- and norUDCA-induced signal transduction via $\alpha 5 \beta 1$ integrin towards cholestero-sis", Sci. Rep. 2020, 10, 5795
- + B. S. Ludwig, J. D. G. Correia, F. E. Kühn, "Ferrocene derivatives as anti-infective agents", Coord. Chem. Rev. 2019, 396, 22
- + J. Han, A. F. B. Räder, F. Reichart, B. Aikman, M. N. Wenzel, B. Woods, M. Weinmüller, B. S. Ludwig, R. Bischoff, H. P. Permentier, H. Kessler, P. Horvatovich, A. Casini, "Bioconjugation of supramolecular metallacages to integrin ligands for targeted delivery of cisplatin", Bioconjug. Chem. 2018, 29, 3856



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Patent applications

- + B. S. Ludwig, S. Kossatz, A. Azhdarinia, S. Ghosh, L. Koller, W. A. Weber, "Conjugate Compounds and their use in cancer treatment and diagnosis", WO 2024/133780 A1
- + B. S. Ludwig, H. Kessler, U. Reuning, S. Kossatz, K. Hodiola-Dilke, "Compound for treating COVID-19 infections", EP 4329792 A1



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Awards

- + Women in Molecular Imaging Network (WIMIN) Scholar Award, issued by the WIMIN Interest Group for the presentation "PSMA-targeted drug conjugates for selective inhibition of PARP1 in combination with ^{177}Lu -PSMA radioligand therapy", World Molecular Imaging Congress 2023
- + Travel grant for the presentation "PSMA-targeted drug conjugates for selective inhibition of PARP1 in combination with ^{177}Lu -PSMA radioligand therapy", World Molecular Imaging Congress 2023
- + EMIM 2022 poster prize, issued by the ESMI - European Society for Molecular Imaging, for the poster presentation "Radiosensitization of $\alpha \nu \beta 6$ overexpressing tumors using a ferrocene-peptide conjugate"
- + Johannes B. Ortner prize for outstanding work by early-career researchers in the natural and engineering sciences for the master's thesis "Integrin ligands for the coating of biomaterials"