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Positions | Academic Career

2001-present	Full Professor / Director, Institute of Biochemistry, Goethe University Frankfurt
1998-2001	Full Professor / Director, Physiological Chemistry, Medical Faculty, University Marburg
1996-1998	Assistant Professor in Biochemistry / Biophysics, Technical University (TU) Munich
1996	Habilitation in Biochemistry, Technical University Munich
1992-1998	Max Planck Research Group Leader, MPI of Biochemistry, Martinsried
1992-1998	Independent Research Group Leader, Department of Biophysics, TU Munich
1990-1991	Max Kade Fellowship, Stanford University (with Harden M. McConnell), USA
1987-1989	PhD in Biochemistry with highest honors (*summa cum laude*), TU Darmstadt
1981-1987	Diploma in Chemistry with highest honors (*summa cum laude*), TU Darmstadt

Scientific Awards | Honors (selection)

2025-present	ERC Advanced Grant (2nd), Life Sciences LS1, European Research Council
2025	Elected Member of the *Academia Europaea*, Biochemistry & Molecular Biology
2023-2024	*Schaefer Research Award* and Visiting Professor, Columbia University, New York, USA
2019	Director, Inst. Struct. Mol. Biol. (ISMB) and Head of Joint Research Departments, University College London (UCL) and Birkbeck College London (gratefully declined)
2019	Elected *EMBO Member*, Structural Biology, Membrane/Transport, Immunology, etc.
2018	Reinhart Koselleck Award Grant, German Research Foundation (DFG)
2018-2024	ERC Advanced Grant, ERC Investigator, Life Sciences LS1, European Research Council
2017-present	Appointed Honorary Visiting Fellow, Merton College, University of Oxford, UK
2017-2018	Visiting Professor, Department of Biochemistry, University of Oxford, UK
2010-present	Excellence in Teaching Award (3x), Goethe University Frankfurt
2010-2021	Honorary Professorship, iCeMS, Kyoto University, Japan
2009-2010	Adjunct & Visiting Professor, University of California San Francisco (UCSF), USA
1996-1998	Heisenberg Fellow, German Research Foundation (DFG), Germany
1989-1991	Postdoctoral Fellowship of DFG and Max Kade Foundation, New York, USA
1987-1989	PhD Fellowship, awarded by the Chemical Industry (FCI), Germany
1985	Anton Keller Prize in Chemistry, Germany
1984-1987	Fellow, *Studienstiftung des Deutschen Volkes*, Germany
1983-1987	Fellow, *Cusanuswerk*, Germany

Academic Leadership (selection)

2022-present	Head of Collaborative Research Center CRC 1507 *Membrane Assemblies & Machineries*
2008-2020	Head of Collaborative Research Center CRC 807 *Membrane Transport*
2007-2019	Cofounder, Board of Directors, Cluster of Excellence Frankfurt (EXC 115)
2007-2010	Spokesperson, Biomembranes, German Society Biochemistry and Molecular Biology
2005-2010	Coordinator of the European Membrane Biology Network (EMBN-Train)
2003-2007	Head of Collaborative Research Center CRC 628 *Membrane Proteomics*
2001-2016	Cofounder, Board of Directors, Center for Membrane Proteomics (CMP)

Trusts | Editorial Boards (selection)

2020-present	Board Member, EMBO Fellowship Committee
2010-present	Chair and Trustee, Paul Ehrlich Early Career Award, Paul Ehrlich Foundation
2014-2025	Trustee, German Research Foundation (DFG), Goethe University Frankfurt
2016-2023	Chair and panel member, ERC Advanced Grants, European Research Council (ERC)
2015-2016	Panel Chair, *Centre National de la Recherche Scientifique* (CNRS), France
2008-2011	Review Board Member, Basic Research in Biology and Medicine (FK 201), DFG
2009	Review Board Member, Excellence Initiative, Germany
2003-2008	Editorial Board, *The Journal of Biological Chemistry* (ASBMB)

Keynote Lectures | Organization of International Meetings (selection)

2025	EMBO Keynote Lecture, EMBO Fellows' Meeting Heidelberg, Germany
2025	EMBO Keynote Lecture, Lorne Conference, Melbourne, Australia
2025	Keynote Lecture, American Society for Mass Spectrometry, Sante Fe, NM, USA
2025/2023	Chair / Vice Chair, Gordon Research Conference, Membrane Transport, USA
2024	APEX Lecture, Vanderbilt University, Nashville, TN, USA
2024	William E. Mahoney Lecture, University of Massachusetts, Amherst, MA, USA
2023	Carl F. Schmidt Lecture, University of Pennsylvania, Philadelphia, USA
2023	Philip Bard Lectureship, Johns Hopkins School of Medicine, Baltimore, USA
2022	Kavli Lecture, University of Oxford, UK
2022	Arnold D. Welch Lectureship, Yale University, New Haven, USA
2022	EMBO Keynote Lecture, Lorne Conference, Melbourne, Australia
2021	Keynote Opening Lecture, ISBUC Copenhagen, Denmark
2019	Keynote Lecture, NWO CHAINS, The Dutch Chemistry Society, NL
2019	Baruch Blumberg Lecture, Oxford University Museum of Natural History, UK
2019	Keynote Lecture, Texas Center Membrane Protein Research Symposium, USA
2019	Keynote Lecture, FEBS International Conference, Budapest, Hungary
2018	Keynote Lecture, FEBS International Conference, Innsbruck, Austria
2017	Keynote Lecture, Symposium SFB 35, Vienna, Austria

Promoting of Researchers in Early Career Phases

Mentoring and teaching: 20 group leaders, 26 Postdocs, >80 PhD students, >100 undergraduates, >150 PhD thesis committees at MPI of Biochemistry Martinsried, TU Munich, University Marburg, and Goethe University Frankfurt. Initiator of the DFG Integrative Graduate School *Membrane Transport* (TRAM) in the CRC 807. Coordinator of the International European Membrane Biology Training Network (EMBNTrain). Member of the DFG Graduate School *Complex Light-triggered Reactions*, International Max Planck Research School for Heart and Lung Research (MPI-HLR), International Max Planck Research School, Structure and Function of Membranes (MPI-BP). Chair and Trustee of the **Paul Ehrlich and Ludwig Darmstaedter Early Career Award**.

Members of the Tampé lab holding faculty positions (selected): Maike Bublitz (Professor, University of Oxford, UK); Karin Busch (Professor, University of Münster, Germany); Min Chen (Professor, University of Massachusetts, USA); Roger Draheim (Assoc. Head of Research, University of Portsmouth, UK); Robert Ernst (Professor & Vice President, Medical Faculty, University of Saarland); Milan Gerovac (Group Leader, Helmholtz Center for Infection Research, Braunschweig, Germany); Alexander Gottschalk (Professor, Goethe University Frankfurt, Germany); Inga Hänelt (Professor, Goethe University Frankfurt, Germany); Robin Klemm (Professor, University of Oxford, UK); Jacob Piehler (Professor, University of Osnabrück, Germany); Kristian Müller (Professor, Bielefeld University, Germany); Peter U. Mayerhofer (Lecturer, University of Surrey, UK); M. Florencia Sanchez (Emmy Noether Group Leader, University of Münster, Germany); Lutz Schmitt (Professor, University of Düsseldorf, Germany); Jilin Tang (Professor, Chinese Academy of Sciences, Changchun, China); Guido Veit (Principal Investigator, McGill University, Montréal, Canada).

Short Bio

Robert Tampé is renowned for his pioneering work in membrane biology and cellular quality control. He is Director of the Institute of Biochemistry at Goethe University Frankfurt and leads the Collaborative Research Center 1507. His research has greatly advanced the understanding of membrane transport processes, receptor organization, antigen processing, viral immune evasion, and ribosome recycling. Tampé has received numerous prestigious honors, including two **ERC Advanced Grants** from the European Research Council, the **Reinhart Koselleck Project Award** from the German Research Foundation (DFG), and the **Schaefer Research Award** from Columbia University, New York. In addition, he holds honorary visiting professorship at Kyto University and Oxford University (Merton College). He is an elected member of EMBO and *Academia Europaea*, and is frequently invited to deliver keynote addresses and honorary lectures worldwide.

Major Scientific Achievements and Breakthroughs (last ten years):

- Peptide-loading complex as proofreader and limiter of antigen processing (2024 *PNAS*)
- Engineering mesoscale T cell receptor clustering by nanotools (2024 *Advanced Materials*)
- Dynamic interactome of the peptide loading complex in dendritic cells (2023 *PNAS*)
- Structure of a fully assembled tumor-specific T-cell receptor ligated by pMHC (2022 *Cell*)
- Mechanistic and structural basis of the MHC I multichaperone complexes (2022 *Nat Commun) awarded as "Molecule of the Month" by the Protein Data Base (PDB) in 04/2023*
- Ligand-independent signaling by receptor confinement (2021 *Science*)
- Structure of an archaeal ribosome quality control complex (2020 *EMBO J*)
- Full conformational landscape of an ABC transporter under turnover conditions (2019 *Nature*)
- Structure of the human MHC I peptide-loading complex (2017 *Nature*)
- First structure of an MHC I chaperone and editing complex (2017 *Science*)
- Structure of the post-splitting complex 40S-ABCE1 in ribosome recycling (2017 *NSMB*)
- First structure of a transport complex at subnanometer resolution by cryo-EM (2015 *Nature*)

Contributions to Science

1. Membrane Machineries in Antigen Processing and Recognition. The human immune system relies on sophisticated strategies to detect and eliminate infected or malignant cells. Tampé has been a pioneer in integrative research dissecting these pathways and macromolecular machineries that underpin adaptive immunity (*PNAS* 2024, 2023; *eLife 20*23*; Cell* 2022*; Annu Rev Biophys 20*20; *Nature* 2017, 2019; *Science* 2017). His discoveries range from the mechanistic determinants of the transporter associated with antigen processing (TAP) to the chaperone machineries required for MHC I assembly (*Nat Commun* 2022a/b; *Science* 2017), culminating in the structure of the fully-assembled native peptide-loading complex (*Nature* 2017) and the ligand-bound T-cell receptor complex (*Cell* 2022). Using a broad spectrum of structural, biochemical, and biophysical approaches, his team has uncovered central mechanistic determinants of TAP function (*PNAS* 2010, 2011; *Nat Comm* 2014, 2015; *JACS* 2016) and clarified how virus subvert antigen processing to evade immune detection (*Nature 19*95; *EMBO* 1996; *PNAS* 2003,2005; *Nat Immunol* 2005; *PLoS Pathog* 2014). His seminal discoveries on MHC I assembly pathways culminated in determining the structure of the MHC I peptide loading complex (PLC) and related ER quality control assemblies (*Nature* 2017; *Science* 2017; *Cell* 2014; *Science* 1997).

a. Stolz M, Sušac L, Fahim A, Keller R, Saggau L, Mancia F, Trowitzsch S, Tampé R (2025) US6 hijacks the peptide-loading complex by trapping transport-chaperone dynamics. ***Science Adv***, accepted; *BioRxiv* 661491. doi:10.1101/2025.06.25.661491

b. Brunnberg J, Barends M, Frühschulz S, Winter C, Battin C, de Wet B, Cole DK, Steinberger P, Tampé R (2024) Dual role of the peptide loading complex as proofreader and limiter of MHC-I presentation. ***Proc Natl Acad Sci USA*** 121, 22321600121. doi:10.1073/pnas.2321600121

c. Barends M, Koller N, Schölz C, Durán V, Bošnjak B, Becker J, Döring M, Blees H, Förster R, Kalinke U, Tampé R (2023) Dynamic interactome of the MHC I peptide loading complex in human dendritic cells. ***Proc Natl Acad Sci USA*** 120, e2219790120. doi:10.1073/pnas.2219790120

d. Sušac L, Yuong MT, Thomas C, von Bülow S, O'Brien-Ball C, Santos AM, Fernandes RA, Hummer G, Tampé R*, Davis SJ* (2022) Structure of a fully assembled tumor-specific T-cell receptor ligated by pMHC. ***Cell*** 185, 3201-13. (*corr. author) doi:10.1016/j.cell.2022.07.010

e. Domnick A, Winter C, Sušac L, Hennecke L, Hensen M, Zitzmann N, Trowitzsch S, Thomas C, Tampé R (2022) Molecular basis of MHC I quality control in the peptide loading complex. ***Nat Commun*** 13, 4701. doi:10.1038/s41467-022-32384-z

f. Müller IK, Winter C, Thomas C, Spaapen RM, Trowitzsch S, Tampé R (2022) Structure of an MHC I-tapasin-ERp57 editing complex defines chaperone promiscuity. ***Nat Commun*** 13, 5283. doi:10.1038/s41467-022-32841-9

g. Blees A, Januliene D, Hofmann T, Koller N, Schmidt C, Trowitzsch S, Moeller A, Tampé R (2017) Structure of the human MHC-I peptide-loading complex. ***Nature*** 551, 525-8. doi:10.1038/nature24627

h. Thomas C, Tampé R (2017) Structure of the TAPBPR-MHC I complex defines the mechanism of peptide loading and editing. ***Science*** 358, 1060-4. doi:10.1126/science.aao6001

2. Structure and Mechanism of ABC Transport Complexes. ATP-binding cassette (ABC) transporters form one of the largest and most versatile protein superfamilies in all domains of life. These transporters undergo pronounced conformation transitions during the transport cycle (*Annu Rev Biochem*'20). Robert Tampé has been at the forefront of developing innovative structural and mechanistic approaches to unravel ABC transporter function (*Nature* 2015; *Nat Chem* 2015; *PNAS* 2017). The conformational landscape of a TAP-related transport machinery has been captured with unprecedented detail (*Nature* 2019, *eLife* 2020, 2021). These insights have reshaped our understanding of the mechanistic principles governing this medically important protein superfamily.

a. Thomas C, Tampé R (2020) Structural and mechanistic principles of ABC transporters. ***Annu Rev Biochem*** 89, 605-36. doi:10.1146/annurev-biochem-011520-105201

b. Hofmann S, Januliene D, Mehdipour AR, Thomas C, Stefan E, Brüchert S, Kuhn BT, Geertsma ER, Hummer G, Tampé R*,#, Moeller A* (2019) Conformation space of a heterodimeric ABC exporter under turnover conditions. ***Nature*** 471, 580-3. (*corr. author, #lead contact) doi:10.1038/s41586-019-1391-0

c. Stefan E, Obexer R, Hofmann S, Vu Huu K, Huang Y Morgner N, Suga H, Tampé R (2021) De-novo macrocyclic peptides dissect energy coupling of a heterodimeric ABC transporter by multimode allosteric inhibition. ***eLife*** 10, e67732. doi:10.7554/eLife.67732

d. Stefan E, Hofmann S, Tampé R (2020) A single power stroke by ATP binding drives substrate translocation in a heterodimeric ABC transporter. ***eLife*** *9*, e55943. doi:10.7554/eLife.55943

e. Kim JM, Wu, S, Tomasiak T, Mergel C, Winter MN, Stiller S, Robles-Colmanares Y, Stroud RM*, Tampé R*, Craik CS*, Cheng Y* (2015) Subnanometre-resolution electron cryomicroscopy structure of a heterodimeric ABC exporter. ***Nature*** 517, 396-400. (*corr. author) doi:10.1038/nature13872

3. Ribosome Recycling and Quality Control. Ribosome recycling is a critical final step in mRNA translation, ensuring that ribosomes are efficiently reused for new rounds of protein synthesis. Robert Tampé's lab was among the first to identify the ribosome recycling factor ABCE1 (*PNAS* 2011) and to elucidate the molecular mechanism of ribosome splitting (*TiBS* 2012, *EMBO J* 2020; *Cell Rep* 2019; *NSMB* 2017; *Nat Comm* 2015). His team advanced the concept of a "*closed translational cycle"*, linking translation directly to initiation via ribosome recycling, and uncovered key mechanistic principles connecting this process to ribosome-associated quality control. These findings have provided a deeper understanding of how cells maintain translational fidelity and respond to defective translation events.

a. Nürenberg-Goloub E, Kratzat H, Heinemann H, Heuer A, Kötter P, Berninghausen O, Becker T, Tampé R*,#, Beckmann R* (2020) Molecular analysis of the ribosome recycling factor ABCE1 bound to the 30S post-splitting complex. ***EMBO J*** 39, e103788. (*corr. author, #lead contact) doi:10.15252/embj.2019103788

b. Gouridis G, Hetzert B, Kiosze-Becker K, de Boer M, Heinemann H, Nürenberg-Goloub E, Cordes T, Tampé R (2019) ABCE1 controls ribosome recycling by an asymmetric dynamic conformation equilibrium. ***Cell Rep*** 28, 723-634. doi:10.1016/j.celrep.2019.06.052

c. Heuer A, Gerovac M, Schmidt C, Trowitzsch S, Preis A, Kötter P, Berninghausen O, Becker T, Beckmann R, Tampé R (2017) Structure of the 40S-ABCE1 post-splitting complex in ribosome recycling and translation initiation. ***Nat Struct Mol Biol*** 24, 453-60. doi:10.1038/nsmb.3396

d. Kiosze-Becker K, Ori A, Gerovac M, Heuer A, Nürenberg-Goloub E, Jan Rashid U, Becker T, Beckmann R, Beck M, Tampé R (2016) Structure of the ribosome post-recycling complex probed by chemical cross-linking and mass spectrometry. ***Nat Commun*** 7, 13248. doi:10.1038/ncomms13248

4. Membrane Receptor Clustering and Transmembrane Signaling. Membrane organization and receptor clustering play a critical role in transmitting signals and controlling cellular responses. The Tampé lab has made groundbreaking discoveries using a unique array of light-controllable optical nanotools, revealing a form of receptor signaling that operates independently of ligands through the clustering of membrane receptors in situ (*Science* 2021; *Nano Lett* 2021; *TiBS* 2022; *Adv Mater* 2024). These versatile techniques, combined with the nanotools employed, have opened up new possibilities for understanding the impact of membrane organization on cell signaling.

a. Sánchez MF, Els-Heindl S, Beck-Sickinger AG, Wieneke R, Tampé R (2021) Photo-induced receptor confinement drives ligand-independent GPCR signaling. ***Science*** 371, abb7657. doi:10.1126/science.abb7657

b. Sánchez MF, Faria S, Frühschulz S, Werkmann L, Winter C, Karimian T, Lanzerstorfer P, Plochberger B, Weghuber J, Tampé R (2024) Engineering mesoscale T cell receptor clustering by plug-and-play nanotools. ***Adv Mater*** 36, 202310407. doi:10.1002/adma.202310407

c. Sánchez MF, Tampé R (2022) Ligand-independent receptor clustering modulates transmembrane signaling: a new paradigm. ***Trends Biochem Sci*** 48, 156-171. doi:10.1016/j.tibs.2022.08.002

d. Sánchez MF, Dietz MS, Müller U, Weghuber J, Gatterdam K, Wieneke R, Heilemann M, Lanzerstorfer P, **Tampé R** (2022) Dynamic in situ confinement triggers ligand-free neuropeptide receptor signaling. ***Nano Lett*** 22, 8363−8371. doi:10.1021/acs.nanolett.2c03506

5. Chemical and Synthetic Biology. The Tampé lab has made transformative advances in chemical and synthetic biology, developing powerful tools to dissect complex biological processes with unmatched control. His innovations include light-controlled immune machineries (*Angew Chem* 2024). He also pioneered synthetic protein-conductive nanopores (*Nat Commun* 2019; *Nat Nanotechnol* 2012), site-specific chemoselective labeling of supramolecular assemblies (*Angew Chem* 2018), creating versatile platforms that bridge chemistry, synthetic biology, and immunology.

a. Löffler M, Frühschulz S, Rockel Z, Pečak M, Tampé R*, Wieneke R* (2024) Antigen delivery controlled by an on-demand photorelease. ***Angew Chem Int Ed***, e202405035. doi:10.1002/anie.202405035

b. Winter C, Domnick A, Cernova D, Tampé R (2022) Semisynthetic viral inhibitor for light control of the MHC I peptide loading complex. ***Angew Chem Int Ed***, e202211826. doi:10.1002/anie.202211826

c. Diederichs T, Pugh G, Dovey A, Xing Y, Burns JR, Nguyen QH, Tornow M, Tampé R*, Howorka S* (2019) Synthetic protein-conductive membrane nanopores built with DNA. ***Nat Commun*** 10, 5018. (*corr. author) doi:10.1038/s41467-019-12639-y

d. Gatterdam K, Joest EF, Gatterdam V, Tampé R (2018) The scaffold design of trivalent chelator heads dictates affinity and stability for labeling His-tagged proteins in vitro and in cells. ***Angew Chem Int Ed*** 57, 12395-9. doi:10.1002/anie.201802746

e. Wei R, Gatterdam V, Wieneke R, Tampé R*, Rant U* (2012) Stochastic sensing of proteins with receptor-modified solid-state nanopores. ***Nat Nanotechnol*** 7, 257-63. (*corr. author) doi:10.1038/nnano.2012.24

Leadership in Large Research Clusters and Networks

- Head of Research Center CRC 1507 – *Membrane Assemblies, Machineries, and Supercomplexes*
- Coordinator of Research Center CRC 807 – *Membrane Transport and Communication*
- Cofounder, Board of Directors, Cluster of Excellence – *Macromolecular Complexes*
- Section Head, European Drug Initiative on Channels and Transporters (EDICT), EU 7FP
- Coordinator, European Membrane Biology Network (EMBNTrain), European Commission
- Coordinator of Research Center CRC 628 – *Functional Membrane Proteomics*

Transdisciplinarity / Networking: Research projects have been highly interdisciplinary as documented by the wide scope of publications. Driven by fundamental questions, the lab of Robert Tampé applies the full range of methods, ranging from cryo-EM, X-ray crystallography, EPR/NMR spectroscopy, single-molecule analysis to new immunological approaches, new labeling techniques, and chemical biology. In addition, some demanding projects were supported by collaborations with highly experienced scientists, i.e. Martin Beck (EMBL Heidelberg), Roland Beckmann (Munich), Jörg Bewersdorf (Yale), J Magarian Blander (New York), Enrica Bordignon (Geneva), Yifan Cheng (UCSF), Daniel Choquet (Bordeaux), Thorben Cordes (Munich), Peter Cresswell (Yale), Amin Gölzhäuser (Bielefeld), Gonzalo Cosa (Quebec), Simon J. Davis (Oxford), Alexander Deiters (Pittsburg), Ralf Ficner (Göttingen), Reinhold Förster (Hannover), Rachel Gaudet (Harvard), Clemens Glaubitz (Frankfurt), Alexander Heckel (Frankfurt), Mike Heilemann (Frankfurt), Peter Hinterdorfer (Linz), Stefan Howorka (London), Gerhard Hummer (Frankfurt), Benesh Josef (FU Berlin), Ulrich Kalinke (Hannover), Achillefs N. Kapanidis (Oxford), Tony Kossiakoff (Chicago), Christian Kurtz (Bonn), Vivek Malhotra (Barcelona), Filippo Mancia (New York), Arne Moeller (Frankfurt), Nina Morgner (Frankfurt), Daniel Müller (Basel), Simon Newstead (Oxford), Stephan A. Pless (Copenhagen), Bert Poolman (Groningen), Klaas Martin Pos (Frankfurt), Carol Robinson (Oxford), Lars Schäfer (Bochum), Robbert M. Spaapen (Amsterdam), Peter Steinberger (Vienna), Robert Stroud (UCSF), Hiroaki Suga (Tokyo), Peter van Endert (Paris), Horst Vogel (Lausanne), Josef Wachtveitl (Frankfurt), Nicole Zitzmann (Oxford). In return, the Tampé lab has shared know-how and reagents with the scientific community, including antibodies against PLC components, multivalent chelator probes, and chelator lipids, which are now commercially available and used world-wide.

10 Selected Publications (last 10 years) – Complete List of Published Work

Google Scholar: >300 publications, >27,100 citations; h-index 86; i10-index 274 | Research Gate | Research Loop

1) Stolz M, Sušac L, Fahim A, Keller R, Saggau L, Mancia F, Trowitzsch S*, Tampé R* (2025) US6 hijacks the peptide-loading complex by trapping transport-chaperone dynamics. ***Science Adv.***, accepted; *BioRxiv* 661491. doi:10.1101/2025.06.25.661491

2) Brunnberg J, Barends M, Frühschulz S, Winter C, Battin C, de Wet B, Cole DK, Steinberger P, Tampé R (2024) Dual role of the peptide loading complex as proofreader and limiter of MHC-I presentation. ***Proc Natl Acad Sci USA*** 121, 22321600121. doi:10.1073/pnas.2321600121

3) Barends M, Koller N, Schölz C, Durán V, Bošnjak B, Becker J, Döring M, Blees H, Förster R, Kalinke U, Tampé R (2023) Dynamic interactome of the MHC I peptide loading complex in human dendritic cells. ***Proc Natl Acad Sci USA*** 120, e2219790120. doi:10.1073/pnas.2219790120

4) Sušac L, Yuong MT, Thomas C, von Bülow S, O'Brien-Ball C, Santos AM, Fernandes RA, Hummer G, Tampé R*, Davis SJ* (2022) Structure of a fully assembled tumor-specific T-cell receptor ligated by pMHC. ***Cell*** 185, 3201-13. doi:10.1016/j.cell.2022.07.010
(Research Highlight in ***Nat Struct Mol Biol***, ***Science Immunology*** & ***Cancer Discovery***)

5) Domnick A, Winter C, Sušac L, Hennecke L, Hensen M, Zitzmann N, Trowitzsch S, Thomas C, Tampé R (2022) Molecular basis of MHC I quality control in the peptide loading complex. ***Nature Communications*** 13, 4701. doi:10.1038/s41467-022-32384-z

6) Sánchez MF, Els-Heindl S, Beck-Sickinger AG, Wieneke R, Tampé R (2021) Photo-induced receptor confinement drives ligand-independent GPCR signaling. ***Science***, eabb7657. doi:10.1126/science.abb7657 (Research Highlight in ***Nature Chemical Biology*** & ***Faculty 1000***)

7) Hofmann S, Januliene D, Mehdipour AR, Thomas C, Stefan E, Brüchert S, Kuhn BT, Geertsma ER, Hummer G, Tampé R*, Moeller A* (2019) Conformation space of a heterodimeric ABC exporter under turnover conditions. ***Nature*** 471, 580-3. doi:10.1038/s41586-019-1391-0
(Front Cover Story in ***Nature*** 2019)

8) Blees A, Januliene D, Hofmann T, Koller N, Schmidt C, Trowitzsch S, Moeller A, Tampé R (2017) Structure of the human MHC-I peptide-loading complex. ***Nature*** 551, 525-8. doi:10.1038/nature24627 (Front Cover Story and News & View ***Nature*** 2017; Dispatch ***Current Biology*** 2018; Highlight ***F1000*** 2018; Viewpoint ***Mol Immunol*** 2018; Most Cited Paper **Web of Science**)

9) Thomas C, Tampé R (2017) Structure of the TAPBPR-MHC I complex defines the mechanism of peptide loading and editing. ***Science*** 358, 1060-4. doi:10.1126/science.aao6001 (Insights and Perspectives ***Science*** 2017; News & View ***Nature*** 2017; Highlight ***Faculty 1000*** 2018; Viewpoint ***Biochemistry*** 2018)

10) Kim JM, Wu S, Tomasiak T, Mergel C, Winter MN, Stiller S, Robles-Colmanares Y, Stroud RM*, Tampé R*, Craik CS*, Cheng Y* (2015) Subnanometre-resolution electron cryomicroscopy structure of a heterodimeric ABC exporter. ***Nature*** 517, 396-400. doi:10.1038/nature13872

* corresponding author

Selected Reviews (last 5 years)

1) Sánchez MF, Tampé R (2023) Ligand-independent receptor clustering modulates transmembrane signaling: a new paradigm. ***Trends Biochem Sci*** 48, 156-71. doi:10.1016/j.tibs.2022.08.002 – highlighted as front cover story

2) Thomas C, Tampé R (2021) MHC I assembly and peptide editing – Chaperones, clients, and molecular plasticity. ***Curr Opin Immunol*** 70, 48-56. doi:10.1016/j.coi.2021.02.004

3) Thomas C, Tampé R (2020) Structural and mechanistic principles of ABC transporters. ***Annu Rev Biochem*** 89, 605-36. doi:10.1146/annurev-biochem-011520-105201

4) Trowitzsch S, Tampé R (2020) Multifunctional chaperone and quality control complexes in adaptive immunity. ***Annu Rev Biophys*** 49, 135-161. doi:10.1146/annurev-biophys-121219-081643

5) Wieneke R, Tampé R (2019) Multivalent chelators for in vivo protein labeling. ***Angew Chem*** 58, 8278-90. doi:10.1002/anie.201811293

Selected Collaborative Work

1) Sekulovski S, Sušac L, Stelzl LS, Tampé R, Trowitzsch S (2023) Structural basis of substrate recognition by human tRNA splicing endonuclease TSEN. ***Nat Struct Mol Biol*** 30, 834-40. doi:10.1038/s41594-023-00992-y

2) Barbet G, Nair-Gupta P, Schotsaert M, Yeung ST, Moretti J, Seyffer F, Metreveli G, Tardner T, Choi A, Tortorella D, Tampé R, Khanna KM, Garcia-Sastre A, Blander JM (2021) TAP dysfunction redirects subcellular MHC-I traffic to enable non-canonical cross-presentation and CD8 T cell priming. ***Nature Immunology*** 22, 497-509. doi:10.1038/s41590-021-00903-7

3) Khoo KK, Galleano I, Gasparri F, Wieneke R, Harms H, Poulsen MH, Chua HC, Wulf M, Tampé R, Pless SA (2020) Chemical modification of proteins by insertion of synthetic peptides using tandem protein trans-splicing. ***Nature Communications*** 11, 2284. doi:10.1038/s41467-020-16308-6

4) Guesdon A, Bazile F, Buey R, Mohan R, Monier S, Rodríguez-García R, Angevin M, Heichette C, Wieneke R, Tampé R, Duchesne L, Akhmanova A, Steinmetz M, Chrétien D (2016) EB1 interacts with outwardly curved and straight regions of the microtubule lattice. ***Nature Cell Biology*** 8, 1102-8. doi:10.1038/ncb3412

5) Kaur H, Lakatos-Karoly A, Vogel R, Nöll A, Tampé R, Glaubitz C (2016) Coupled ATPase-adenylate kinase activity in ABC transporters. ***Nature Communications*** 7, 13864. doi:10.1038/ncomms13864

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