

## Dr. Sebastian Temme

### List of publications

#### Original Publications

- 1 Bouvain P, Ding Z, Kadir S, Kleimann P, Kluge N, Tiren ZB, Steckel B, Flocke V, Zalfen R, Petzsch P, Wachtmeister T, John G, Vijitha N, Krämer W, Strasdeit T, Mehrabipour M, Moll JM, Schubert R, Ahmadian MR, Bönner F, Boeken U, Westenfeld R, Engel D, Kelm M, Schrader J, Köhrer K, Grandoch M\*, **Temme S\***, Flögel U\*: *Non-invasive mapping of systemic neutrophil dynamics upon cardiovascular injury*. Nat Cardiovasc Res 2: 126-143, 2023. (\* = shared authorship)
- 2 Ding Z, Tan K, Alter C, **Temme S**, Bouvain P, Owenier C, Hänsch S, Wesselborg S, Peter C, Weidtkamp-Peters S, Flögel U, Schira-Heinen J, Stühler K, Hesse J, Kögler G, Schrader J. *Cardiac injection of USSC boosts remuscularization of the infarcted heart by shaping the T-cell response*. J Mol Cell Cardiol. 2023;175:29-43.
- 3 Croci D, Santalla Méndez R, **Temme S**, Soukup K, Fournier N, Zomer A, Colotti R, Wischnewski V, Flögel U, van Heeswijk RB, Joyce JA. *Multispectral fluorine-<sup>19</sup>F MRI enables longitudinal and noninvasive monitoring of tumor-associated macrophages*. Sci Transl Med. 2022;14(667):eabo2952.
- 4 Flögel U, **Temme S**, Jacoby C, Oerther T, Keul P, Flocke V, Wang X, Bönner F, Nienhaus F, Peter K, Schrader J, Grandoch M, Kelm M, Levkau B. *Multi-targeted <sup>1</sup>H/<sup>19</sup>F MRI unmasks specific danger patterns for emerging cardiovascular disorders*. Nat Commun. 2021; 12(1):5847.
- 5 **Temme S\***, Yakoub M\*, Bouvain P, Yang G, Schrader J, Stegbauer J#, Flögel U#. *Beyond Vessel Diameters: Non-invasive Monitoring of Flow Patterns and Immune Cell Recruitment in Murine Abdominal Aortic Disorders by Multiparametric MRI*. Front Cardiovasc Med. 2021; 8:750251. (\*/# = shared authorship).
- 6 Boehm-Sturm P, Mueller S, Freitag N, Borowski S, Foddiss M, Koch SP, **Temme S**, Flögel U, Blois SM. *Phenotyping placental oxygenation in Lgals1 deficient mice using <sup>19</sup>F MRI*. Sci Rep. 2021; 11(1):2126.
- 7 Wang X\*, **Temme S\***, Grapentin C, Palasubramaniam J, Walsh A, Krämer W, Kleimann P, Havlas A, Schubert R, Schrader J, Flögel U#, Peter K#. *Fluorine-19 Magnetic Resonance Imaging of Activated Platelets*. J Am Heart Assoc. 2020; e016971. (\* = shared authorship)
- 8 Staal A\*, Becker K\*, Tagit O, van Riessen NK, Koshkina O, Veltien A, Bouvain P, Cortenbach KRG, Scheenen T, Flögel U, **Temme S#**, Srinivas M#. *In vivo clearance of <sup>19</sup>F MRI imaging nanocarriers is strongly influenced by nanoparticle ultrastructure*. Biomaterials. 2020; 261:120307. (\*/# = shared authorship).
- 9 Straub T, Nave J, Bouvain P, Akbarzadeh M, Dasa SSK, Kistner J, Ding Z, Marzoq A, Stepanow S, Becker K, Hesse J, Köhrer K, Flögel U, Ahmadian MR, French BA, Schrader J\*, **Temme S\***. *MRI-based molecular imaging of epicardium-derived stromal cells (EpiSC) by peptide-mediated active targeting*. Sci Rep. 2020; 10(1):21669. (\* = shared senior authorship)
- 10 Krämer W, Bouvain P, Grapentin C, Flögel U, **Temme S**, Schubert R: *Rational manufacturing of functionalized, long-term stable perfluorocarbon-nanoemulsions for site-specific <sup>19</sup>F magnetic resonance imaging*. European Journal of Pharmaceutics and Biopharmaceutics; 142:114-122.

- 11 Nienhaus F, Colley D, Jahn A, Pfeiler S, Flocke V, **Temme S**, Kelm M, Gerdes N, Flögel U, Bönner F: *Phagocytosis of a PFOB-Nanoemulsion for <sup>19</sup>F Magnetic Resonance Imaging: First results in monocytes of patients with stable coronary artery disease and ST-elevation myocardial infarction*; *Molecules*, 30;24(11).
- 12 **Temme S**, Temme N and Koch N: *Assembly, Intracellular Transport, and Release of MHC Class II Peptide Receptors*; *Methods Mol Biol*. 2019;1988:297-314.
- 13 **Temme S\***, Baran P\*, Bouvain P\*, Grapentin C, Krämer W, Knebel B, Al-Hasani H, Moll JM, Floss D, Schrader J, Schubert R, Flögel U#, Scheller J#. *A Synthetic Cargo Internalization Receptor System for Nanoparticle Tracking of Individual Cell Populations by Fluorine Magnetic Resonance Imaging*. *ACS Nano*; 12(11):11178-11192. (\*/# = shared authorship)
- 14 Flögel U, Schlüter A, Jacoby C, **Temme S**, Banga JP, Eckstein A, Schrader J, Berchner-Pfannschmidt U. *Multimodal assessment of orbital immune cell infiltration and tissue remodeling during development of graves' disease by <sup>1</sup>H/<sup>19</sup>F MRI*. *Magn Reson Med*. 2018; 80(2):711-718.
- 15 Bouvain P, Flocke V, Krämer W, Schubert R, Schrader J, Flögel U\*, and **Temme S\***. *Dissociation of <sup>19</sup>F and fluorescence signal upon cellular uptake of dual contrast perfluorocarbon nanoemulsions*. *MAGMA* 2018 Nov 29. doi: 10.1007/s10334-018-0723-7. (\* = shared authorship)
- 16 Khalil AA, Mueller S, Foddis M, Mosch L, Lips J, Przesdzing I, **Temme S**, Flögel U, Dirnagl U, Boehm-Sturm P. *<sup>19</sup>F magnetic resonance imaging of brain oxygenation in a mouse model of vascular cognitive impairment using a cryogenic radiofrequency coil*. *MAGMA*. 2018. 32(1):105-114.
- 17 Güden-Silber T\*, **Temme S\***, Jacoby C, Flögel U. *Biomedical (<sup>19</sup>F) MRI Using Perfluorocarbons*. *Methods Mol Biol*. 2018; 1718:235-257. (\* = shared authorship)
- 18 Borg N, Alter C, Görltdt N, Jacoby C, Ding Z, Steckel B, Quast C, Bönner F, Friebe D, **Temme S**, Flögel U, Schrader J. *CD73 on T-Cells Orchestrates Cardiac Wound Healing After Myocardial Infarction by Purinergic Metabolic Reprogramming*. *Circulation*. 2017. 136(3):297-313.
- 19 Niazy N\*, **Temme S\***, Bocuk D, Giesen C, König A, Temme N, Ziegfeld A, Gregers TF, Bakke O, Lang T, Eis-Hübinger AM#, and Norbert Koch#. *Misdirection of endosomal trafficking mediated by herpes simplex virus encoded glycoprotein B*. *FASEB J*. 2017. 31(4):1650-1667. (\* = shared authorship)
- 20 **Temme S\***, Friebe D\*, Schmidt T\*, Poschmann G, Hesse J, Steckel B, Stühler K, Kunz M, Dandekar T, Ding Z, Akhyari P, Lichtenberg A, Schrader J. *Genetic profiling and surface proteome analysis of human atrial stromal cells and rat ventricular epicardium-derived cells reveals novel insights into their cardiogenic potential*. *Stem Cell Res*. 2017. 25:183-190. (\* = shared authorship)
- 21 Ding Z, **Temme S**, Quast C, Friebe D, Jacoby C, Zanger K, Bidmon HJ, Grapentin C, Schubert R, Flögel U, Schrader J. *Epicardium-Derived Cells Formed After Myocardial Injury Display Phagocytic Activity Permitting In Vivo Labeling and Tracking*. *Stem Cells Transl Med*. 2016. 5(5):639-50.
- 22 **Temme S**, Grapentin C, Quast C, Jacoby C, Grandoch M, Ding Z, Owenier C, Mayenfels F, Fischer JW, Schubert R, Schrader J, Flögel U. *Noninvasive Imaging of Early Venous Thrombosis by <sup>19</sup>F Magnetic Resonance Imaging With Targeted Perfluorocarbon Nanoemulsions*. *Circulation*. 2015. 131(16):1405-14.

- 23 Bönner F, Merx MW, Klingel K, Begovatz P, Flögel U, Sager M, **Temme S**, Jacoby C, Salehi Ravesh M, Grapentin C, Schubert R, Bunke J, Roden M, Kelm M, Schrader J. *Monocyte imaging after myocardial infarction with <sup>19</sup>F MRI at 3 T: a pilot study in explanted porcine hearts*. Eur Heart J Cardiovasc Imaging. 2015. 16(6):612-20.
- 24 Bönner F, Jacoby C, **Temme S**, Borg N, Ding Z, Schrader J, Flögel U. *Multifunctional MR monitoring of the healing process after myocardial infarction*. Basic Res. Cardiol. 2014. 109(5):430.
- 25 **Temme S**, Zacharias M, Neumann J, Wohlfromm S, König A, Temme N, Springer S, Trowsdale J, Koch N. *A Novel Family of Human Leukocyte Antigen Class II Receptors May Have Its Origin in Archaic Human Species*. J Biol Chem. 2014. 289(2):639-53.
- 26 Jacoby C, **Temme S**, Mayenfels F, Benoit N, Krafft MP, Schubert R, Schrader J, Flögel U. *Probing different perfluorocarbons for in vivo inflammation imaging by <sup>19</sup>F MRI: image reconstruction, biological half-lives and sensitivity*. NMR Biomed. 2014. 27(3):261-71.
- 27 Bönner F, Borg N, Jacoby C, **Temme S**, Ding Z, Flögel U, Schrader J. *Ecto-5'-nucleotidase on immune cells protects from adverse cardiac remodeling*. Circ Res. 2013. 113(3):301-12.
- 28 **Temme S**, Jacoby C, Ding Z, Bönner F, Borg N, Schrader J, Flögel U. *Technical Advance: Monitoring the trafficking of neutrophil granulocytes and monocytes during the course of tissue inflammation by noninvasive <sup>19</sup>F MRI*. J Leukoc Biol. 2013. 95(4):689-697.
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- 30 Flögel U, Burghoff S, van Lent PL, **Temme S**, Galbarz L, Ding Z, El-Tayeb A, Huels S, Bönner F, Borg N, Jacoby C, Müller CE, van den Berg WB, Schrader J. *Selective activation of adenosine A2A receptors on immune cells by a CD73-dependent prodrug suppresses joint inflammation in experimental rheumatoid arthritis*. Sci Transl Med. 2012. 4(146):146ra108.
- 31 Kämper N, Franken S, **Temme S**, Koch S, Bieber T, Koch N. *γ-Interferon-regulated chaperone governs human lymphocyte antigen class II expression*. FASEB J. 2012. 26(1):104-16.
- 32 Kämper N, Kessler J, **Temme S**, Wegscheid C, Winkler J, Koch N. *A novel BAT3 sequence generated by alternative RNA splicing of exon 11B displays cell type-specific expression and impacts on subcellular localization*. PLoS One. 2012. 7(4):e35972.
- 33 Koch N, Zacharias M, König A, **Temme S**, Neumann J, Springer S. *Stoichiometry of HLA class II-invariant chain oligomers*. PLoS One. 2011. 6(2):e17257.
- 34 **Temme S**, Eis-Hübinger AM, McLellan AD, Koch N. *The herpes simplex virus-1 encoded glycoprotein B diverts HLA-DR into the exosome pathway*. J Immunol. 2010. 184(1):236-43.
- 35 Ting YT, **Temme S**, Koch N, McLellan AD. *A new monoclonal antibody recognizing a linear determinant on the HLA-DRalpha chain N-terminus*. Hybridoma. 2009. 28(6):423-9.

## Reviews and Book chapters

- 1 **Temme S**, Kleimann P, Grandoch M, Wang X, Peter K, Simon F, Schrader J, Flögel U: Aktives Targeting zur Visualisierung von thrombotischen Prozessen mittels  $^{19}\text{F}$ -MRT. *Gefäßchirurgie* **28**: 52–57, 2023.
- 2 **Temme S**, Simon F, Kleimann P, Bouvain P, Grandoch M, Stegbauer J, **Flögel U**:  $^{19}\text{F}$ -MRT basierte Visualisierung von entzündlichen Prozessen im Gefäßsystem. *Gefäßchirurgie* **27**: 579-584, 2022.
- 3 Hof S, Marcus C, Kuebart A, Schulz J, Truse R, Raupach A, Bauer I, Flögel U, Picker O, Herminghaus A, **Temme S**. *A Toolbox to Investigate the Impact of Impaired Oxygen Delivery in Experimental Disease Models*. *Front Med*. 2022;9:869372.
- 4 Bouvain P, **Temme S**, Flögel U. *Hot spot  $^{19}\text{F}$  MRI of inflammation*. *Wiley Interdiscip. Rev. Nanomed Nanobiotechnol*. 2020. 12(6):e1639.
- 5 Flögel U., **Temme S.**, Kelm M.  *$^{19}\text{F}$ -MR-Imaging inflammatorischer Prozesse im kardiovaskulären System*. *Trillum Immunologie*. 2020. (4)1: 42-46
- 6 **Temme S**, Grapentin C, Güden-Silber T, Flögel U. *Active Targeting of Perfluorocarbon Nanoemulsions*. In  *$^{19}\text{F}$  Magnetic Resonance Imaging*; Pan Stanford Publishing. 2016
- 7 Grapentin C, Mayenfels F, Barnert S, Süß R, Schubert R, **Temme S**, Jacoby C, Schrader J, Flögel U: *Optimization of perfluorocarbon nanoemulsions for molecular imaging by  $^{19}\text{F}$  MRI*. In: Seifalian A, de Mel A, Kalaskar DM eds. (Hrsg): *Nanomedicine*; One Central Press, 2014; 268-286
- 8 **Temme S**, Bönner F, Schrader J, Flögel U.  *$^{19}\text{F}$  magnetic resonance imaging of endogenous macrophages in inflammation*. *Wiley Interdiscip Rev Nanomed Nanobiotechnol*. 2012. 4(3):329-43.