

Publications in Peer-reviewed Journals

1. S. Mordhorst, J. Siegrist, M. Müller, M. Richter, **J.N. Andexer** (2017): ReCYCLE SAM: Catalytic Alkylation Using an *S*-Adenosylmethionine Regeneration System. *Angew. Chem. Int. Ed.* 56, DOI: 10.1002/anie.201611038.
2. C. Sommer-Kamann, A. Fries, S. Mordhorst, **J.N. Andexer**, M. Müller (2017): Asymmetric C-Alkylation by the *S*-Adenosylmethionine-Dependent Methyltransferase SgvM. *Angew. Chem. Int. Ed.* 56, DOI: 10.1002/anie.201609375.
3. J. Siegrist, J. Netzer, S. Mordhorst, L. Karst, S. Gerhardt, O. Einsle, M. Richter, **J.N. Andexer** (2017): Functional and structural characterisation of a bacterial O-methyltransferase and factors determining regioselectivity. *FEBS Lett.* 591, DOI: 10.1002/1873-3468.12530.
4. J. Siegrist, S. Aschwanden, S. Mordhorst, L. Thöny-Meyer, M. Richter, **J. N. Andexer**, (2015): Regiocomplementary O-methylation of catechols using three-enzyme cascades, *ChemBioChem.* 16, 2576–2579. *Featured as back cover.*
5. F. Hubrich, P. Juneja, M. Müller, K. Diederichs, W. Welte, **J.N. Andexer** (2015): Chorismatase mechanisms reveal fundamentally different types of reaction in a single conserved protein fold. *J. Am. Chem. Soc.* 137, 11032–11037. *Highlighted in JACS.*
6. **J. N. Andexer**, M. Richter (2015): Emerging Enzymes for ATP Regeneration in Biocatalytic Processes. *ChemBioChem.* 16, 380–386.
7. N. Kandziora, **J. N. Andexer**, S. J. Moss, B. Wilkinson, P. F. Leadlay, F. Hahn (2014): Uncovering the origin of Z-configured double bonds in polyketides: intermediate *E*-double bond formation during borrelidin biosynthesis. *Chem. Sci.* 5, 3563–3567.
8. F. Hubrich, M. Müller, **J. N. Andexer** (2014): In vitro production and purification of isochorismate using a two-enzyme cascade. *J. Biotechnol.* 191, 93–98.
9. P. Juneja, F. Hubrich, K. Diederichs, W. Welte, **J.N. Andexer** (2013): Mechanistic Implications for the Chorismatase FkbO Based on the Crystal Structure. *J. Mol. Biol.* 426, 105–115.
10. J. Schlesier, J. Siegrist, S. Gerhardt, A. Erb, S. Blaesi, M. Richter, O. Einsle, **J.N. Andexer** (2013): Structural and functional characterisation of the methionine adenosyltransferase from *Thermococcus kodakarensis*. *BMC Struct. Biol.* 13:22.
11. F. Hubrich, S. Mordhorst, **J. N. Andexer** (2013): Cinnamic acid derivatives as inhibitors for chorismatases and isochorismatases. *Bioorg. Med. Chem. Lett.* 23, 1477–1481.
12. **J. N. Andexer**, N. Staunig, T. Eggert, C. Kratky, M. Pohl, K. Gruber (2012): Hydroxynitrile lyases with α/β -hydrolase fold: two enzymes with almost identical 3D-structures but opposite enantioselectivities and different reaction mechanisms. *ChemBioChem.* 13. 1932–1939.
13. O. Vergnolle, F. Hahn, A. Baerga-Ortiz, P. F. Leadlay, **J. N. Andexer** (2011): Stereoselectivity of Isolated Dehydratase Domains of the Borrelidin Polyketide Synthase: Implications for *cis* Double Bond Formation. *ChemBioChem.* 12, 1011–1014.

14. **J. N. Andexer**, S. G. Kendrew, M. Nur-e-Alam, O. Lazos, T. A. Foster, A.-S. Zimmermann, T. D. Warneck, D. Suthar, N. J. Coates, F. E. Koehn, J. S. Skotnicki, G. T. Carter, M. A. Gregory, C. J. Martin, S. J. Moss, P. F. Leadlay, B. Wilkinson (2011): Biosynthesis of the immunosuppressants FK506, FK520, and rapamycin involves a previously undescribed family of enzymes acting on chorismate. *Proc. Natl. Acad. Sci. U. S. A.* 108, 4776–4781.
15. **J. N. Andexer**, J. von Langermann, U. Kragl, M. Pohl (2009): How to overcome limitations in biotechnological processes - examples from hydroxynitrile lyase applications. *Trends Biotechnol.* 27, 599–607.
16. J.-K. Guterl, **J. N. Andexer**, T. Sehl, J. von Langermann, I. Frindi-Wosch, T. Rosenkranz, J. Fitter, K. Gruber, U. Kragl, T. Eggert, M. Pohl (2009): Uneven Twins: Comparison of two enantiocomplementary hydroxynitrile-lyases with an α/β -hydrolase fold. *J. Biotechnol.* 141, 166–173.
17. **J. Andexer**, J. von Langermann, A. Mell, M. Bocola, U. Kragl, T. Eggert, M. Pohl (2007): An *R*-selective Hydroxynitrile Lyase from *Arabidopsis thaliana* with an α/β -hydrolase fold. *Angew. Chem. Int. Ed.* 46, 8679–8681.
18. **J. Andexer**, J.-K. Guterl, M. Pohl, T. Eggert (2006): A high-throughput screening assay for hydroxynitrile lyase activity. *Chem. Commun.* 40, 4201–4203.

Other Publications

1. **J. N. Andexer**, W. Hüttel (2017): Trendberichte 2016: Enzymreaktionen und katalytisch aktive Proteine, *Nachr. Chem.* 65, *in press*.
2. **J. N. Andexer**, W. Hüttel (2016): Trendberichte 2015: Enzymreaktionen, *Nachr. Chem.* 64, 289–291.
3. **J. N. Andexer**, W. Hüttel (2015): Trendberichte 2014: Enzymreaktionen, *Nachr. Chem.* 63, 300–303.
4. **J. N. Andexer**, W. Hüttel (2014): Trendberichte 2013: Enzymreaktionen, *Nachr. Chem.* 62, 278–280.
5. **J. N. Andexer**, M. Müller (2013): Trendberichte 2012: Enzymreaktionen, *Nachr. Chem.* 61, 286–288.
6. **J. N. Andexer**, M. Müller (2012): Trendberichte 2011: Enzymreaktionen, *Nachr. Chem.* 60, 294–296.
7. T. Eggert, S. A. Funke, **J. N. Andexer**, M. T. Reetz, K.-E. Jaeger (2008): Evolution of Enantioselective *Bacillus subtilis* Lipase. In: S. Lutz, U. T. Bornscheuer (eds), *Protein Engineering Handbook*, WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim.

Patents & Patent Applications

1. T. Eggert, **J. Andexer** (2006) (*R*)-Hydroxynitril-Lyase aus Brassicaceen. Patent Application DE 10 2006 058 373 A1 und WO 2008 067807 A2.

Oral Presentations

1. "Chorismatases and SAM-dependent Methyltransferases." DECHEMA Institute, (invited talk, Frankfurt a. M., Germany, 11.10.2016).
2. "A Flexible Platform for Methylation Reactions with SAM-dependent Enzymes." 2016 Biocatalysis Gordon Research Conference (invited talk, University of New England in Biddeford, ME, 10. – 15.07.2016).
3. "Biocatalytic regioselective methylation using enzyme cascades." Molecular Interaction Engineering Symposium (invited talk, Karlsruher Institut für Technologie, Germany, 15. – 16.06.2016).
4. "SAM-dependent methyltransferases in chemical synthesis." Elfriede-Husemann-Lectures (Freiburg, Germany, 28.01.2016).
5. "Chorismatases, Methyltransferases and Polyphosphate Kinases – Looking into the Selectivity of Enzymes." BASF (invited talk, Ludwigshafen, Germany, 21.01.2016).
6. "Chorismatases: three products, two mechanisms, one fold." University of Mainz, Pharmazeutisches Kolloquium (invited talk, Mainz, Germany, 11.12.2015).
7. "Chorismatases: three products, two mechanisms, one fold." Nachwuchswissenschaftler-Symposium Bioorganische Chemie (Hamburg, Germany, 23. – 25.09.2015).
8. "Chorismatase Mechanisms: Hydrolysis vs. intramolecular reaction." Biotrans 2015 (Vienna, Austria 26. – 30.07.2015).
9. "Wieso, weshalb, warum: Untersuchungen zur Selektivität von Enzymen." Tag der Forschung der Fakultät für Chemie und Pharmazie (Freiburg, Germany, 03.07.2015).
10. "Enzyme am Fließband: Strategien zur Entwicklung modifizierter Naturstoffe." Sommerveranstaltung der Wissenschaftlichen Gesellschaft Freiburg im Breisgau (Freiburg, Germany, 01.07.2015).
11. Structure and mechanism of chorismatases – Research Centre Jülich (invited talk, Jülich, Germany, 25.03.2015).
12. "Structure and mechanism of chorismatases." Nachwuchswissenschaftler-Symposium Bioorganische Chemie (Tübingen, Germany, 24. – 26.09.2014).
13. "New members in the chorismate club FkbO & Hyg5." University of Konstanz (invited talk, Konstanz, Germany, 22.01.2014).
14. "Towards biocatalytic methylation using enzyme cascades." 3rd 1 Day Symposium on Biocatalysis, Empa (invited talk, St Gallen, Switzerland, 20.01.2014).
15. "Chorismatases in Natural Product Biosynthesis." ESBOC 2012 (Gregynog, UK, 18. – 20.05.2012).
16. "Chorismatases in Natural Product Biosynthesis." Biotrans 2011 (Sicily, Italy, 02. – 06.10.2011).
17. "New Members in the chorismate club: FkbO & Hyg5." Nachwuchswissenschaftler-Symposium Bioorganische Chemie (Karlsruhe, Germany, 26. – 28.09.2011).

18. "New Members in the chorismate club: FkbO & Hyg5." Tag der Forschung der Fakultät für Chemie, Pharmazie und Geowissenschaften (Freiburg, Germany, 08.07.2011).
19. "Biosynthesis of the rapamycin starter unit - a new fate for chorismate?" Nachwuchswissenschaftler-Symposium Bioorganische Chemie (Hannover, Germany, 28. – 30.09.2009).

Additional 25+ poster presentations at national and international conferences.