



Curriculum Vitae

Personal information Remco Merkx

Work experience

1. Employer: Dutch Medicines Evaluation Board
 - Start date: 2015
 - End date:
 - Position: Assessor quality chemical_pharmaceutical products
 - Activities:
 - Country: Netherlands
2. Employer: The Netherland Cancer Institute _ Antoni van Leeuwenhoek Hospital
 - Start date: 2010
 - End date: 2015
 - Position: Postdoctoral fellow
 - Activities: Department of Cell Biology II (supervision prof. dr. H. Ovaa)
 - Country: Netherlands
3. Employer: University of Illinois at Urbana_Champaign
 - Start date: 2008
 - End date: 2009
 - Position: Postdoctoral fellow
 - Activities: Department of Chemistry (supervision prof. dr. W. A. van der Donk)
 - Country: United States
4. Employer: DSM Pharmaceutical Products
 - Start date: 2007
 - End date: 2008
 - Position: Postdoctoral fellow
 - Activities: Innovative Synthesis & Catalysis group
 - Country: Netherlands
5. Employer: Organon
 - Start date: 2000
 - End date: 2000
 - Position: Research laboratory technician
 - Activities: Lead Discovery Unit, Organon, Akzo Nobel
 - Country: Netherlands

Education and training

1. Subject: Utrecht University
 - Start date: 2003
 - End date: 2007
 - Qualification: PhD
 - Organisation: Department of Medicinal Chemistry and Chemical Biology (supervision prof. dr. R.M.J. Liskamp), Utrecht Institute for Pharmaceutical Sciences, Faculty of Pharmaceutical Sciences
 - Country: Netherlands
2. Subject: Utrecht University
 - Start date: 2000
 - End date: 2002
 - Qualification: MSc
 - Organisation: Department of Medicinal Chemistry and Chemical Biology (supervision prof. dr. R.M.J. Liskamp), Utrecht Institute for Pharmaceutical Sciences, Faculty of Pharmaceutical Sciences
 - Country: Netherlands
3. Subject: Hogeschool Brabant
 - Start date: 1994
 - End date: 2000
 - Qualification: B.Sc. Applied Chemistry
 - Organisation: Organic Chemistry
 - Country: Netherlands

Additional information

Publications

1. Janssen GV, Zhang S, Merkx R, Schiesswohl C, Chatterjee C, Darwin KH, Geurink PP, van der Heden van Noort GJ, Ovaa H. 'Development of Tyrphostin Analogues to Study Inhibition of the Mycobacterium tuberculosis Pup Proteasome System.', *Chembiochem*. 2021 2. Shahul Hameed D, van Tilburg GBA, Merkx R, Flierman D, Wienk H, El Oualid F, Hofmann K, Boelens R, Ovaa H. 'Diubiquitin_Based NMR Analysis: Interactions Between Lys6_Linked diUb and UBA Domain of UBXN1.', *Front Chem*. 2020 3. Hameed DS, Sapmaz A, Gjonaj L, Merkx R, Ovaa H. 'Enhanced Delivery of Synthetic Labelled Ubiquitin into Live Cells by Using Next_Generation Ub_TAT Conjugates.', *Chembiochem*, 2018 4. Mulder MPC, Merkx R, Witting K, Hameed D, El Atmioui D, Lelieveld L, Liebelt F, Neeffes J, Berlin I, Vertegaal A, Ovaa H., 'Total chemical synthesis of SUMO and SUMO ABPs to profile activity of SUMO_specific proteases.', *Angew Chem Int Ed Engl.*, 2018. 5. Juenemann K, Jansen AHP, van Riel L, Merkx R, Mulder MPC, An H, Statsyuk A, Kirstein J, Ovaa H, Reits EA., 'Dynamic recruitment of ubiquitin to mutant huntingtin inclusion bodies.', *Sci Rep.*, 2018, 8(1), 1405. 6. Mulder, M.P.C., Witting, K., Berlin, I., Pruneda, J.N., Wu, K.P.,

Chang, J., Merckx, R., Bialas, J., Groettrup, M., Vertegaal, A.C.O., Schulman, B.A., Komander, D., Neefjes, J., El Oualid, F., Ovaa, H., 'A cascading activity_based probe sequentially targets E1_E2_E3 ubiquitin enzymes', *Nat. Chem. Biol.*, 2016, 12, 523. 7. Jansen, R.S., Addie, R., Merckx, R., Fish, A., Mahakena, S., Bleijerveld, O.B., Altaelaar, M., Dlist, L., Wanders, R.J., Borst, P., van de Wetering, K., 'N_lactoyl amino acids are ubiquitous metabolites that originate from CNDP2_mediated reverse proteolysis of lactate and amino acids', *PNAS*, 2015, 21, 6601. 8. Jastrab, J.B., Wang, T., Murphy, J.P., Bai, L., Hu, K., Merckx, R., Huang, J., Chatterjee, C., Ovaa, H., Gygi, S.P., Li, H.L., Darwin, K.H., 'An adenosine triphosphate_independent proteasome activator contributes to the virulence of *Mycobacterium tuberculosis*', *PNAS*, 2015, 14, E1763. 9. Merckx, R., de Bruin, G., Kruijthof, A., van den Bergh, T., Snip, E., Lutz, M., El Oualid, F., Ovaa, H., 'Scalable synthesis of γ _thiolsine starting from lysine and a side by side comparison with δ _thiolsine in non_enzymatic ubiquitination', *Chem. Sci.*, 2013, 4, 4494. 10. Smit, J.J., van Dijk, W.J., El Atmioui, D., Merckx, R., Ovaa, H., Sixma, T.K., 'Target specificity of the E3 ligase LUBAC for ubiquitin and NEMO relies on different minimal requirements', *J. Biol. Chem.*, 2013, 44, 31728. 11. de Jong, A., Merckx, R., Berlin, I., Rodenko, B., Wijdeven, R.H.M., El Atmioui, D., Yalçin, Z., Robson, C.N., Neefjes, J.J., Ovaa, H., 'Ubiquitin_based probes prepared by total synthesis to profile the activity of deubiquitinating enzymes', *ChemBioChem*, 2012, 15, 2251. 12. Merckx, R., Burns, K.E., Slobbe, P., El Oualid, F., El Atmioui, D., Darwin, K.H., Ovaa, H., 'Synthesis and evaluation of a selective fluorogenic Pup derived assay reagent for Dop, a potential drug target in *Mycobacterium tuberculosis*', *ChemBioChem*, 2012, 14, 2056. 13. Faesen, A.C., Luna_Vargas, M.P.A., Geurink, P.P., Clerici, M., Merckx, R., Dijk, W.J. van, Hameed, D.S., El Oualid, F., Ovaa, H., Sixma, T.K., 'The differential modulation of USP activity by internal regulatory domains, interactors and seven Ubiquitin chain types', *Chemistry & Biology*, 2011, 18, 1550. 14. Bindman, N., Merckx, R., Koehler, R., Herrman, N., van der Donk, W.A., 'Photochemical cleavage of leader peptides', *Chemical Communications*, 2010, 46, 8935. 15. El Oualid, F., Merckx, R., Ekkebus, R., Hameed, D.S., Smit, J.J., Jong, A. de, Hilkmann, H., Sixma, T.K., Ovaa, H., 'Chemical Synthesis of Ubiquitin, Ubiquitin_Based Probes, and Diubiquitin', *Angewandte Chemie International Edition*, 2010, 49, 10149. 16. Nuijens, T., Cusan, C., Dooren, T.J.G.M. van, Moody, H.M., Merckx, N.S.M., Kruijtzter, J.A.W., Rijkers, D.T.S., Liskamp, R.M.J., Quaedflieg, P.J.L.M., 'Fully enzymatic peptide synthesis using C_terminal tert_butyl ester interconversion', *Advanced synthesis & catalysis*, 2010, 352, 2399. 17. Yim, C.B., Dijkgraaf, I., Merckx, R., Versluis, C., Eek, A., Mulder, G.E., Rijkers, D.T.S., Boerman, O.C., Liskamp, R.M.J., 'Synthesis of DOTA_Conjugated Multimeric [Tyr3]Octreotide Peptides via a Combination of Cu(I)_Catalyzed "Click" Cycloaddition and Thio Acid/Sulfonyl Azide "Sulfo_Click" Amidation and Their in Vivo Evaluation', *Journal of Medicinal Chemistry*, 2010, 53, 3944. 18. Rijkers, D.T.S., Merckx, R., Yim, C.B., Brouwer, A.J., Liskamp, R.M.J., 'Sulfo_click' for ligation as well as for site_specific conjugation with peptides, fluorophores, and metal chelators', *Journal of Peptide Science*, 2010, 16, 1. 19. Merckx, R., van Haren, M.J., Rijkers, D.T.S., Liskamp, R.M.J., 'Resin_Bound Sulfonyl Azides: Efficient Loading and Activation Strategy for the Preparation of the N_Acyl Sulfonamide Linker', *The Journal of Organic Chemistry*, 2007, 72, 4574. 20. Brouwer, A.J., Merckx, R., Dabrowska K., Rijkers, D.T.S., Liskamp, R.M.J., 'Synthesis and Applications of β _Aminoethanesulfonyl Azides', *Synthesis*, 2006, 3, 455. 21. Merckx, R., Brouwer, A.J., Rijkers, D.T.S., Liskamp, R.M.J., 'Highly Efficient Coupling of β _Substituted Aminoethane Sulfonyl Azides with Thio Acids, Toward a New Chemical Ligation Reaction', *Organic Letters*, 2005, 6, 1125. 22. Rijkers, D.T.S., van Esse, W.G., Merckx, R., Brouwer, A.J., Jacobs, H.J.F., Pieters, R.J., Liskamp, R.M.J., 'Efficient microwave_assisted synthesis of multivalent dendrimeric peptides using cycloaddition reaction (click) chemistry', *Chemical Communications*, 2005, 36, 4581. 23. Straten, N.C.R. van, Berkel, T.H.J. van, Demont, D.R., Karstens, W.J. F., Merckx, R., Oosterom, J., Schulz, J., Someren, R.G., Timmers, C.M., Zandvoort, P.M., 'Identification of Substituted 6_Amino_4_4phenyltetrahydroquinoline Derivatives: Potent Antagonists for the Follicle_Stimulating Hormone Receptor', *Journal of Medicinal Chemistry*, 2004, 48, 1697. 24. Merckx, R., Rijkers, D.T.S., Kemmink, J., Liskamp, R.M.J., 'Chemoselective coupling of peptide fragments using the Staudinger ligation', *Tetrahedron Letters*, 2003, 44, 4515. Patents Ovaa, H., Shanmugham, A., Ekkebus, R., El Oualid, F., Merckx, R., 'Non_hydrolyzable protein conjugates, methods and compositions related thereto', US61/353,780, US61/351,659. Ovaa, H., El Oualid, F., Merckx, R., 'Total chemical synthesis of ubiquitin, ubiquitin mutants and derivatives thereof', US61/383,029. Merckx, N.S.M., Ovaa, H., Darwin, K.H., 'Modified prokaryotic ubiquitin_like protein and methods of use thereof', WO2013166234 A1. Quaedflieg, P.J.L.M., Merckx, N.S.M., 'Chemo_enzymatic Synthesis of a C_terminal Thioester of an Amino Acid or a Peptide', WO2009047354 A1.

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