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Synthetic tools to study ubiquitin biology

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List of publications

1. **Hameed, D.S.**, G.B.A. van Tilburg, R. Merckx, D. Flierman, H. Wienk, F. El Oualid, K. Hofmann, R. Boelens, and H. Ovaa, *Diubiquitin-Based NMR Analysis: Interactions Between Lys6-Linked diUb and UBA Domain of UBXN1*. *Front Chem*, 2019. **7**: 921.
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3. Mulder, M.P.C., R. Merckx, K.F. Witting, **D.S. Hameed**, D. El Atmioui, L. Lelieveld, F. Liebelt, J. Neeffjes, I. Berlin, A.C.O. Vertegaal, and H. Ovaa, *Total Chemical Synthesis of SUMO and SUMO-Based Probes for Profiling the Activity of SUMO-Specific Proteases*. *Angew Chem Int Ed Engl*, 2018. **57**(29): p. 8958-8962.
4. **Hameed, D.S.**, A. Sapmaz, L. Gjonaj, R. Merckx, and H. Ovaa, *Enhanced Delivery of Synthetic Labelled Ubiquitin into Live Cells by Using Next-Generation Ub-TAT Conjugates*. *Chembiochem*, 2018. **19**(24): p. 2553-2557.
5. **Hameed, D.S.**, A. Sapmaz, and H. Ovaa, *How Chemical Synthesis of Ubiquitin Conjugates Helps To Understand Ubiquitin Signal Transduction*. *Bioconjug Chem*, 2017. **28**(3): p. 805-815.
6. Chojnacki, M., W. Mansour, **D.S. Hameed**, R.K. Singh, F. El Oualid, R. Rosenzweig, M.A. Nakasone, Z. Yu, F. Glaser, L.E. Kay, D. Fushman, H. Ovaa, and M.H. Glickman, *Polyubiquitin-Photoactivatable Crosslinking Reagents for Mapping Ubiquitin Interactome Identify Rpn1 as a Proteasome Ubiquitin-Associating Subunit*. *Cell Chem Biol*, 2017. **24**(4): p. 443-457 e6.
7. Oualid, F.E., **D.S. Hameed**, D.E. Atmioui, H. Hilkmann, and H. Ovaa, *Synthesis of atypical diubiquitin chains*. *Methods Mol Biol*, 2012. **832**: p. 597-609.
8. Geurink, P.P., F. El Oualid, A. Jonker, **D.S. Hameed**, and H. Ovaa, *A general chemical ligation approach towards isopeptide-linked ubiquitin and ubiquitin-like assay reagents*. *Chembiochem*, 2012. **13**(2): p. 293-7.
9. Faesen, A.C., M.P. Luna-Vargas, P.P. Geurink, M. Clerici, R. Merckx, W.J. van Dijk, **D.S. Hameed**, F. El Oualid, H. Ovaa, and T.K. Sixma, *The differential modulation of USP activity by internal regulatory domains, interactors and eight ubiquitin chain types*. *Chem Biol*, 2011. **18**(12): p. 1550-61.
10. El Oualid, F., R. Merckx, R. Ekkebus, **D.S. Hameed**, J.J. Smit, A. de Jong, H. Hilkmann, T.K. Sixma, and H. Ovaa, *Chemical synthesis of ubiquitin, ubiquitin-based probes, and diubiquitin*. *Angew Chem Int Ed Engl*, 2010. **49**(52): p. 10149-53.

Curriculum Vitae

Dharjath Ahamed, son of Shahul Hameed, was born on 19th December 1984 in Ambattur, Tamil Nadu in India. In 2006, he finished his Bachelor's degree in Industrial Biotechnology from Government College of Technology, Anna University, Coimbatore (India) with distinction. In 2010, he finished his Master degree in Biomolecular Science (specialization in Cell Biology) from Vrije Universiteit, Amsterdam, the Netherlands. During his Master course, he carried out two internships: the first one in the lab of Prof. dr. Bert de Boer at VU Amsterdam; the second one in the lab of late Prof. dr. Huib Ovaa at the NKI, Amsterdam. It was at the NKI where he was trained in the field of Chemical Biology of ubiquitin proteins. Following the successful completion of the internship project, he continued working as a technician in the spin-off company called UbiQ Bio B.V. at the NKI under the supervision of Prof. dr. Huib Ovaa and Dr. Farid El Oualid. During this time, he was trained in solid-phase peptide synthesis, organic synthesis of peptides possessing unnatural amino acids and in heavy-isotope labelling of proteins using bacterial expression. Besides these, he was also trained in native chemical ligation reactions and in azide-alkyne "click" reactions that are mainly used in the synthesis of diubiquitin molecules. He continued to pursue his PhD in the lab of late Prof.dr.Huib Ovaa under his and Dr. Aysegul Sapmaz's supervision, focusing on further chemical modifications of Ub and in the synthesis of Ub conjugates which were used in solving some outstanding questions in ubiquitin biology. Since the beginning of 2020, he is continuing his research as a post-doctoral fellow in the LUMC lab, focusing on the synthesis of ubiquitin-like protein conjugates and studying the biology behind these proteins. He is also being trained in high-throughput-screening of compounds targeting the enzymes in ubiquitination and deubiquitination process.

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