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Lund-based research organisations form “LundaGUARD”, a consortium aimed at responding to present and future threats from infectious agents.

A consortium of private and public organisations announces a collaboration that aims to assemble and utilise a platform for rapid response to the current SARS-CoV-2 pandemic as well as future threats. The consortium consists of partners with complementary capabilities and in-depth expertise in structure-based drug discovery.

The project will leverage the partners’ platform for accelerated drug discovery towards a “weak spot” in the Sars-CoV-2 virus replication machinery¹. The effort is expected to result in novel candidate drugs specifically for treating Covid-19 patients, but it also represents a versatile tool for future and hitherto unknown threats.

The project team was put together by Dr. Wolfgang Knecht, Manager of LP3, the Protein Production Platform at Lund University. “I realized that Lund, due to the strong presence of academic and industrial infrastructure, has all the components for executing rapid drug discovery, and I am thrilled that we assembled such a strong public-private partnership in such a short time”.

The consortium includes the Swedish national facility MAX IV and the international facility European Spallation Source, ESS; the flagships of large-scale research infrastructure for structural studies located in Lund, Sweden.

Dr. Zoë Fisher, group leader for the Deuteration and Macromolecular Crystallization platform at ESS, emphasizes, “It is great to see what the large-scale infrastructures ESS and MAX IV in Lund can achieve to tackle real world

threats. With this collaboration we are in an excellent position to respond rapidly to the current pandemic and future threats.”

“I am excited to be able to put the newly established FragMAX platform at BioMAX beamline of MAX IV to action for such an important project”, Dr. Vladimir Talibov adds.

Dr. Björn Walse, CEO of SARomics Biostructures: “Our unique WAC™-screening platform, co-owned with Red Glead Discovery, has been validated through multiple assignments with clients. We are very happy to utilise WAC™ for the consortium to support this significant endeavour.”

The EVP of Red Glead Discovery, Dr. Martina Kvist Reimer joins in: “I strongly believe that LundaGUARD has huge potential to effectively address patients’ unmet medical needs for the current pandemic as well as other novel diseases. “

Except for the group of Prof Frank Kozielski at University College London (UCL), School of Pharmacy, all members are located in Lund, Sweden. He says, “I am very impressed by the presence of such strong capabilities in Lund and I am eager to collaborate within this important therapeutic field.”

The LundaGUARD consortium members are: LP3 at Lund University, MAX IV, ESS, Drug Discovery group at University College London, SARomics Biostructures AB and Red Glead Discovery AB.

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Reference List

1 Rogstam, A. *et al.* Crystal Structure of Non-Structural Protein 10 from Severe Acute Respiratory Syndrome Coronavirus-2. *Int J Mol Sci* 21, doi:10.3390/ijms21197375 (2020).

2 Lima, G. M. A. *et al.* FragMAX: the fragment-screening platform at the MAX IV Laboratory. *Acta crystallographica. Section D, Structural biology* 76, 771-777,

ABOUT

European Spallation Source (ESS) is an international multi-disciplinary research facility, based on the world's most powerful neutron source. ESS will enable scientific breakthroughs in research related to materials, health, energy and the environment. www.ess.eu

The Lund Protein Production Platform, LP3, at Lund University is a cross-faculty facility for protein production, purification, crystallization and structure determination. www.lu.se/lp3

The MAX IV Laboratory is a Swedish national laboratory providing scientists with the most brilliant X-rays for research. www.maxiv.lu.se

Red Glead Discovery is one of Sweden's fastest growing companies within the Life Science area, specifically for preclinical contract research (Integrated Drug Discovery) with a focus on small molecules and peptides. www.redglead.com

SARomics Biostructures accelerates discovery through structural insight. www.saromics.com

The UCL School of Pharmacy is one of the most highly rated pharmacy schools in the UK, with over 175 years of experience and tradition throughout which it has retained its identity as a specialist institution dedicated to teaching and research in pharmacy and the pharmaceutical sciences. www.ucl.ac.uk/pharmacy/

LP3, MAX IV Laboratory and SARomics Biostructures are partners in the Swedish Research Council funded FragMAX project2. <https://www.maxiv.lu.se/accelerators-beamlines/bea...>