

Title: Master's student for internship at the Department of Intensive Care Medicine on recombinant alkaline phosphatase as a new treatment option for COVID-19.

Dear students,

The Intensive Care Department is looking for a Master's student in Medical Biology for an internship on the effects of recombinant alkaline phosphatase (reCAP) on the immune response elicited by the SARS-CoV-2 virus, the virus that causes COVID-19.

Recently, our research group showed in a clinical trial that reCAP potentially exerts beneficial effects on renal function in patients with sepsis in the Intensive Care Unit. In addition, reCAP reduced mortality in this patient group by 46%. Regarding the mechanism of action, previous research by our group has shown that reCAP can remove phosphate groups from immunogenic substances such as lipopolysaccharide, preventing it from signaling via the TLR4 receptor. In addition, reCAP dephosphorylates ATP, releasing, among other things, adenosine, a potent anti-inflammatory molecule. Like sepsis, COVID-19 is characterized by an excessive immune response and the development of kidney injury. We therefore want to investigate whether reCAP attenuates the SARS-CoV-2-induced immune response, both in immune and kidney cells. If this turns out to be the case, reCAP may offer a new treatment option for COVID-19.

During this internship you will perform several experimental techniques, including cell culture of primary immune cells and a kidney cell line, ELISA, qPCR, viability assays, flow cytometry and HPLC. You will be part of an enthusiastic team of intensive care researchers and doctors, and employees of AM-pharma, the company that produces reCAP. There are ample opportunities for publication and presentation of the results at conferences.

If you are interested, please contact Matthijs Kox: matthijs.kox@radboudumc.nl.