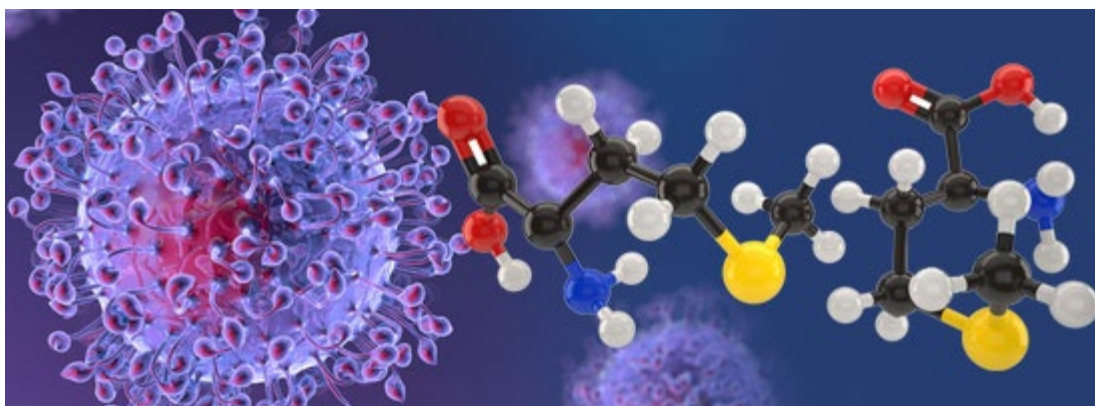




## Implen Journal Club | October Issue

Here is our October issue of Implen Journal Club highlighting relevant publications where the Implen NanoPhotometer® helped researchers to unravel the mysteries of modern molecular biology.



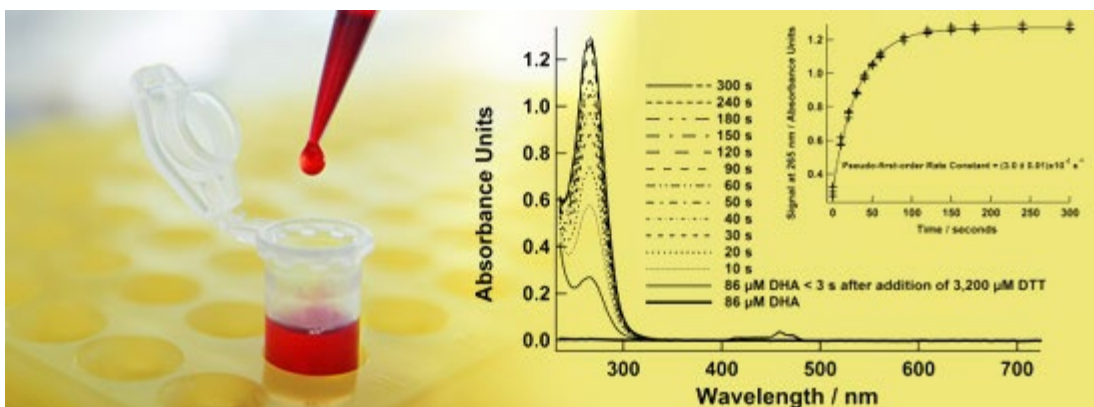
In the first issue of our Journal Club, we focus on the publication by Nathalie Grob, Martin Behe, Elisabeth von Guggenberg, Roger Schibli and Thomas Mindt from Center for Radiopharmaceutical Sciences ETH Zürich and Medical University of Innsbruck investigating the effect of replacing methionine with methoxinine to reduce the formation of oxidative side products which can affect the purity of the final radiopharmaceutical product. Their research revealed that the amino acid exchange in position 15 of the tumour targeting peptide MG11 did not significantly alter the *in vitro* physicochemical properties of the radiolabelled peptides but facilitated the radiolabelling procedure by avoiding the otherwise necessary addition of antioxidants. The NanoPhotometer® was used to determine the concentrations of peptide conjugate stock solutions at 280 nm.

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The second issue is about the work of Marko Stupin, Ana Stupin, Lidija Rasic, Anita Ćosić, Luka Kolar, Vatroslav Seric, Helena Lenasi, Kresimir Izakovic, and Ines Drenjancevic from Josip Juraj Strossmayer University of Osijek, Osijek University Hospital and University of Ljubljana who determined a potential involvement of altered hemodynamic parameters and/or oxidative stress level in the regulation of skin microvascular blood flow by acute exercise, published 2018 in European Journal of Applied Physiology. They used the NanoPhotometer® to measure their samples (Serum lipid peroxidation products and plasma antioxidant capacity) at 572 and 532 nm as well as 593 nm with malondialdehyde and Trolox used as standards.

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Next, we like to highlight the research of Jordan Witmer, Bailey Wetherell, Brett Wagner, Juan Du, Joseph Cullen, Garry Buettner from The University of Iowa who established a way of determining supra-physiological Vitamin C levels in blood plasma directly with a UV/VIS microvolume spectrophotometer,

published in 2016 in Redox Biology. They used the NanoPhotometer® to generate standard curves of ascorbate (which shows a strong peak at 265 nm) as well as further analysis of blood plasma samples to generate a direct assay without further sample processing. The direct assay was also compared against a fluorescence plate reader assay and showed similar results.

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The last issue of our Implen NanoPhotometer® Journal Club in October is featuring the joint work of Emilio Montague, John Paul Matthew Guzman, RMicro, Noel Unciano, Elizabeth Panerio, Ursela Bigol, Ian John Castro, John Paulo Jose, and Sheila Mantaring from Industrial Technology Development Institute, University of Santo Tomas, University of the Philippines, and De La Salle University, published in 2020 (Journal of Fungal Biology), who aimed to employ biological treatment through the use of enzyme, particularly of crude laccase, to reduce the amount of chemicals used during decolourization treatment of textile wastewater. Ultimately showing that laccase can decolourize Remazol Blue RGB textile dye in wastewater. The NanoPhotometer® C40 was used to measure laccase activity. Therefore, the oxidation of ABTS substrate was monitored by an increase in absorbance at 420 nm over time. Additionally, the percentage dye decolourization of wastewater samples was determined by a wave scan from 200 - 900 nm over time.

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Visit [www.implen.de](http://www.implen.de) and find out how the NanoPhotometer® can improve your research.



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