

## MEETING ABSTRACTS

# MANGANESE(III) PORPHYRINS AS ANTI- AND PRO-OXIDANTS IN HIGH-MOLAR-MASS HYALURONAN OXIDATIVE DEGRADATION

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The solution of high-molar-mass hyaluronan (HA) was subjected to oxidative degradation by ascorbate and cupric ions in the absence and presence of one of three ortho isomeric Mn(III) porphyrins or para isomeric Mn(III) porphyrin. Of methods, rotational viscometry was used, by which time-dependent changes in the dynamic viscosity of the HA solutions were measured. The ortho isomers MnTE-2-PyP<sup>5+</sup>, MnTnBuOE-2-PyP<sup>5+</sup> and MnTnHex-2-PyP<sup>5+</sup> interact with ascorbate whereby producing H<sub>2</sub>O<sub>2</sub>, which subsequently reacts with Cu(I) to initiate the hydroxyl radical-induced HA degradation. In contrast, when examining the para isomer, MnTM-4-PyP<sup>5+</sup>, HA degradation was inhibited, due to its inertness towards redox cycling with ascorbate. The results of rotational viscometry were confirmed by using electron paramagnetic resonance (EPR). These findings could provide further insight into the anticancer potential of redox-active ortho isomeric Mn(III) porphyrins.

Acknowledgement: The study was supported by the grant VEGA 2/0019/19, 1/0504/20, APVV-15-0053, APVV-19-0024 and DS-FR-19-0035.

**Keywords:** EPR; glycosaminoglycans; reactive oxygen species