University of Pittsburgh
School of Medicine
Vascular Medicine Institute

Patrick J. Pagano, PhD, FAHA
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Dear Josh,

I am pleased to act as a consultant on NADPH oxidase (Nox) inhibitors and biochemical reactive oxygen species (ROS) assays for your project "Spatially controlled Nox2 inhibition for the targeted treatment of reperfusion injury in myocardial infarction." The treatment approach you are proposing is highly innovative, and represents a promising strategy for inhibiting Nox2, a key producer of harmful ROS in the area-at-risk, without perturbing redox balance elsewhere. The localized inhibition of Nox2 in response to pathologic hydrogen peroxide concentrations will be transformative for the field, as it presents a clever solution to the numerous off-target effects that are observed with systemic Nox2 inhibition.

As you know from your rotation in my laboratory, my group has made significant progress in preparing and testing isoform-specific Nox inhibitors and investigating their therapeutic potential. We were among the first to identify that Nox was found outside phagocytes (in the vascular wall). Subsequently, we were the first group to publish an isoform-specific Nox inhibitor, and we also were the first to clone p67*phox*, the activating subunit of Nox2. Our work has led to several fundamental discoveries about the roles specific Nox isoforms play in cardiovascular disease. I have 30 years of experience working on Nox inhibition and my group has published over 30 papers and reviews in the field. Additionally, Eugenia from my group co-directs the Free Radical and Reactive Oxygen Species Core Facility. She is an expert in the biochemical assays that you are proposing for measuring ROS production, and will be happy to consult with you on performing the assays and analyzing the data, just as she did when you worked here.

Please feel free to contact me at any time if you have any questions regarding Nox inhibitors or biochemical assays for ROS production. As you know, my lab and my office are just a short walk from your lab, and you're welcome to stop by any time.

Sincerely,

Patrick J. Pagano, PhD, FAHA
Professor and Vice-Chair, Graduate Education, Department of Pharmacology and Chemical Biology
Program Director, Molecular Pharmacology Graduate Program