राष्ट्रीय औषधीथ शिक्षा एवं अनुसंधान संस्थान, गुवाहाटी
NATIONAL INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH GUWAHATI
(Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers, Govt. of India)

Date: 31st August, 2023

This is to certify that the dissertation work entitled "Repurposing of paricalcitol, an FDA-approved drug for chronic kidney disease, in Non-alcoholic fatty liver disease and associated cardiac dysfunction" Submitted by Malladi Navya to "SUN PHARMA SCIENCE FOUNDATION SCIENCE SCHOLAR AWARDS 2023" is a bonafide research work carried out by the candidate under my guidance. This work is original and done as a part of her PhD thesis work at National Institute of Pharmaceutical Research and Education, Guwahati, Assam.

Her research work focuses on the cardiometabolic diseases such as nonalcoholic fatty liver disease where she tried to understand the cardiovascular complication that evolve from both the diseases stated above. She has explored the liver-heart axis in NAFLD. Her animal model of NAFLD in rats showed the correlation between fatty liver disease and cardiac dysfunction in a time-dependent manner. Her data also found the role of posttranslational modification of proteins (PTM) in NAFLD progression. She showed that FOXO3A and NFkB are acetylated in the liver of NAFLD rats and cause oxidative stress and inflammation, both of which are crucial for disease pathogenesis. To find a novel therapy considering the increased acetylation, she has treated Paricalcitol, a vitamin D receptor agonist and an FDA-approved drug in renal failure, to NAFLD rats. Interestingly, Paricalcitol attenuate the NAFLD phenotype by decreasing the acetylation status of both FOXO3A and NFkB.

I am providing the references of her publication (research work) at the end of the letter.

Thanking you.
Sincerely,

Sanjay K Banerjee, Ph.D.
Associate Professor and In-Charge
Department of Biotechnology
National Institute of Pharmaceutical Education and Research
Guwahati-781101, Assam, India

Reference paper:

1. Malladi Navya, Devidas Lahamge, Balaji Sanjay Somwanshi, Md Jahangir Alam, Sanjay K Banerjee. Paricalcitol attenuates oxidative stress and inflammatory response in the liver of NAFLD rats. *Cellular and Molecular Life Sciences*.2023. (Under communication)