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: 28th August, 2024

TO WHOM IT MAY CONCERN

This is to certify that the dissertation work entitled ": **Repurposing of paricalcitol in Non-alcoholic fatty liver disease: By targeting the acetylation of FOXO3a and NFκB"** Submitted by Malladi Navya to "SUN PHARMA SCIENCE FOUNDATION SCIENCE SCHOLAR AWARDS 2024" 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 the National Institute of Pharmaceutical Research and Education, Guwahati, Assam.

Her research work focuses on understanding the molecular mechanism of cardiometabolic diseases such as nonalcoholic fatty liver disease where she tried to understand the cardiovascular complications that evolve from NAFLD. 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 (1). 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 attenuates 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 N, Lahamge D, Somwanshi BS, Tiwari V, Deshmukh K, Balani JK, Chakraborty S, Alam MJ, Banerjee SK. Paricalcitol attenuates oxidative stress and inflammatory response in the liver of NAFLD rats by regulating FOXO3a and NFκB acetylation. Cell Signal. 2024 Sep;121:111299. doi: 10.1016/j.cellsig.2024.111299.