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Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram 695014, Kerala State, India.
An Autonomous National Institute for Discovery, Innovation & Translation in Biotechnology and Disease Biology,
Government of India, Ministry of Science & Technology, Department of Biotechnology.

राजीव गाँधी जैव प्रौद्योगिकी केन्द्र, तिरुवनन्तपुरम 695 014, केरल, भारत.
जैवप्रौद्योगिकी और रोग जीवविज्ञान में आविष्कार, नवीनता एवं अनुवाद की स्वायत्त राष्ट्रीय संस्थान,
भारत सरकार विज्ञान एवं प्रौद्योगिकी मंत्रालय, जैवप्रौद्योगिकी विभाग.

Reg: Justification for sponsoring the nomination of Feba Shaji for the Sun Pharma Science Scholar Awards for Young Scientists in BioMedical Sciences

Dear Award selection committee,

I am extremely happy to sponsor nomination of Ms. Feba Shaji for the Sun Pharma Science Scholar Awards for Young Scientists in BioMedical Sciences in basic Research. Feba has carried out some of the leading research on the role of an RNA binding protein RBM10 in mRNA processing and heart failure progression. She is in the forefront of gene regulation research in disease progression. She is a rapidly rising star with a tremendous future. Her work reveals a new dynamics of RBM10 phosphorylation by proto-oncogene cSrc that enables anti-hypertrophy gene program in the heart and controls cardiac hypertrophy. She characterized three cSrc target phosphorylation sites, inhibition of which accentuates myocyte hypertrophy and advances progression to heart failure. In the absence of phosphorylation, restoration of endogenous RBM10 level in the hypertrophic heart or ectopic re-expression failed to reverse hypertrophy in the heart. Mechanistically, RBM10 phosphorylation is essential for its nuclear localization and interaction with co-regulator Star-PAP in the heart. Overall, her work has demonstrated that cSrc-mediated RBM10 phosphorylation arbitrates anti-hypertrophy gene program in the heart and controls cardiac hypertrophy.

This work shows a clear fundamental advances in understanding of the mechanism of heart failure progression where phosphorylated RBM10 will act as central anti-hypertrophy regulator that along with poly(A) polymerase Star-PAP will control the overall hypertrophy gene program in the heart. Her research contribution in the last 3 to 4 years greatly enhanced our understanding of regulation both anti- and pro-hypertrophy gene expression that occurs centrally through processing of 3'-untranslated region by controlling polyadenylation events. She has shown that this occurs through phosphorylated RBM10 mediated by cSrc kinase that arbitrates interaction with the polymerase Star-PAP and nuclear localization. This has direct clinical relevance in understanding pathogenesis of heart failure and preventive therapeutics.

In addition, Feba is an extremely hardworking, committed, and highly motivated student. She is one of the most dedicated scientists I have worked with in my career and her incredible enthusiasm and determination are unparalleled. She is one of the best students that I have worked with so far in my last twelve years as an independent faculty. I would rate her as an outstanding researcher among the contemporary Ph.D. students in the entire Institute. She has contributed to two publications, one in the journal Wires RNA as first author and in IJMS as a contributing author. Currently,

three manuscripts are under revision or review in in high impact journals one of which is on the role of RBM10 phosphorylation in heart failure.

I believe that Feba's work is absolutely of the quality and impact expected of Sun Pharma Science Scholar Awards and that her work will justify this award. The discovery of phosphorylated RMB10-Star-PAP complex mediated anti-hypertrophy gene program is integral for the understanding of the pathogenesis of heart failure and has translational potential in preventive therapeutics. Undoubtedly, with the Sun Pharma Science Scholar Awards, Feba stands to build on the strong foundation of his career and make a mark on the global scientific map. I hope that I have justified sponsoring the nomination of Feba and that you can give her nomination your most favorable consideration.

Yours Sincerely,

Rakesh S. Laishram, Ph.D.
Scientist F
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