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To

Sun Pharma Science Foundation

I am delighted to nominate Dr Deepali Jain's work for prestigious Sun Pharma Science Foundation Research Awards in Medical Sciences-Clinical Research category for the year 2024. The detailed application is enclosed in prescribed proforma by Sun Pharma Science Foundation.

Dean
Research section
AIIMS New Delhi

09/8/24

आचार्य (डॉ.) जीवन सिंह तितियाल
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Dean Biosciences & Health Research

Trivedi School of Biosciences

August 2, 2024

Citation (summary) on the outstanding research work on which the award is claimed (250 words)

I am delighted to nominate Dr Deepali Jain's work for prestigious **Sun Pharma Science Foundation Research Awards.**

In the recent work done by Deepali Jain's lab, investigators have significantly advanced the field of molecular testing utilizing liquid biopsies in lung cancer through their dual contributions. First, by utilizing the supernatant of pleural effusion, which is typically discarded by laboratories, her work revealed its potential as a valuable source of cell-free tumor DNA for molecular diagnostics. Pleural effusion is a common complication in advanced lung cancer. Through comprehensive genomic analysis using Next Generation Sequencing, the work demonstrates that pleural effusion supernatant contains sufficient and high-quality cell-free tumor DNA, enabling accurate detection of genetic mutations and alterations relevant to lung cancer. As a matter of fact, mutations are detectable in the supernatants even when tumor cells are not present in diagnostic cellular pellet of effusion specimens.

(***J Am Soc Cytopathol. 2024;13:291***).

Second, the "Plasma First" strategy for detecting epidermal growth factor receptor (*EGFR*) gene mutations in advanced non-small cell lung carcinoma (NSCLC) has proven to be a valuable approach for improving patient care by shortening the turnaround time (TAT) for initiating targeted therapy. This approach emphasizes the use of plasma samples to extract cell-free tumor DNA, offering a minimally-invasive and potentially more accessible alternative for mutation detection. (***J Cancer Res Clin Oncol. 2024;150:371***).

Together, these studies offer a thorough framework for employing liquid biopsy in molecular testing and strategic planning, aiming to enhance patient care by reducing turnaround time (TAT) and improving the accuracy and feasibility of detecting genetic mutations in lung cancer.

(Anurag Agrawal)