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It is certified that the work contained in the thesis titled ***"COMBINATION STRATEGIES FOR ENHANCING ANTI-TUMOR ACTIVITY OF ANTI-PD1 MONOCLONAL ANTIBODY"*** by ***GULLANKI NAGA VENKATA CHARAN TEJ*** has been carried out under my supervision and that this work has been not submitted elsewhere for a degree.

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DECLARATION BY THE CANDIDATE

I, ***Gullanki Naga Venkata Charan Tej***, certify that the work embodied in this Ph.D. thesis is my own bonafide work and carried out by me under the supervision of ***Dr. Prasanta Kumar Nayak*** from ***July, 2016 to August, 2021*** at the ***Department of Pharmaceutical Engineering & Technology***, Indian Institute of Technology (B.H.U.), Varanasi. The matter embodied in this thesis has not been submitted for the award of any other degree/diploma.

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It is certified that the above statement made by the student is correct to the best of my/our knowledge.

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List of Abbreviations

Abbreviations	Full forms
A2A	Adenosine 2A
ANOVA	Analysis of Variance
CAMs	Cellular Adhesion Molecules
ELISA	Enzyme Linked Immunosorbent Assay
FDA	Food and Drug Administration
HIF	Hypoxia Inducible Factor
Ki	Inhibitory constant
TILs	Tumor infiltrating lymphocytes
PD-1	Programmed cell death protein 1
PD-L1	Programmed cell death ligand 1
CTLA4	Cytotoxic T-lymphocyte associated protein 4
MCA	Methylcholanthrene
NO	Nitric oxide
WHO	World Health Organization
VEGF	Vascular Endothelial Growth Factor
DAMPs	Damage associated molecular patterns
HMGB1	High mobility group box 1
TNF-α	Tumor necrosis factor alpha
IFN-γ	Interferon gamma 1