

ECRA Application No: VRN/008528/23-24

Title of the project: Development of biocompatible polymer based enzyme immobilizing agents for the enhancement of thrombolytic potential of streptokinase

LIST OF EQUIPMENTS

Phase 1: Polymer Film Preparation & Modification

SI No.	Equipment	Description	Use in Project
NRE1	<i>Benchtop Single Beam Spectrophotometer, 195-1020 nm</i>	<ul style="list-style-type: none">• 195-1020 nm, ± 0.5 nm accuracy• UV-Visible spectrophotometer for quantitative analysis of solutions in the UV-Vis range.• Single beam design with digital readout.	<ul style="list-style-type: none">• For enzyme activity assays later.• To determine concentration of dyes/drugs loaded in PLA/PCL films, study polymer degradation kinetics, and monitor release profiles.• Essential for absorbance-based assays.
NRE2	<i>Micropipettes Single Channel (p1, p20, p250, p1000)</i>	<ul style="list-style-type: none">• Set of 4 variable-volume air displacement pipettes: 0.1-1 μL, 2-20 μL, 20-250 μL, 100-1000 μL with calibration certificates.	<ul style="list-style-type: none">• Accurate dispensing of chloroform, PEG-400, and polymer solutions during film casting.• Prevents solvent loss and ensures reproducibility.
NRE3	<i>Refrigerator</i>	<ul style="list-style-type: none">• Laboratory-grade refrigerator, 200-300L, 2-8°C with digital temperature control and alarm.	<ul style="list-style-type: none">• Storage of moisture-sensitive polymers like PLA, hygroscopic PEG-400, and prepared films to prevent degradation before testing.
NRE4	<i>Labtech Conical Vacuum Laboratory Desiccator</i>	<ul style="list-style-type: none">• Borosilicate glass desiccator with vacuum port and porcelain plate, ~200mm diameter.• Maintains controlled humidity.	<ul style="list-style-type: none">• Conditioning polymer films at 50% RH, 23°C for 48 hrs before FTIR/SEM to standardize moisture content.
NRE5	<i>Benchtop High Speed Refrigerated Centrifuge</i>	<ul style="list-style-type: none">• Refrigerated centrifuge, max 15000 rpm, temperature range -10°C to 40°C, with rotor for 1.5/2 mL and 15/50 mL tubes.	<ul style="list-style-type: none">• Purification of synthesized polymers by removing unreacted monomers/catalysts.• Separation of polymer precipitates from solvents.
NRE6	<i>Dlab MS-H-S Magnetic Stirrer</i>	<ul style="list-style-type: none">• 0-1500 rpm, Max temp 340°C, Ceramic plate, 135mm dia.	<ul style="list-style-type: none">• Dissolving PLA/PCL/PEA + PEG-400 in chloroform at 45°C under sealed conditions. Ensures homogeneous solution for film casting.
NRE7	<i>Probe Sonicater</i>	<ul style="list-style-type: none">•	<ul style="list-style-type: none">•
NRE8	<i>Fume hood</i>	<ul style="list-style-type: none">• Ducted Chemical Fume Hood, Bench-top.• 4 ft (1200 mm) width \times 2.5 ft depth \times 4 ft height minimum	<ul style="list-style-type: none">• Prevents inhalation of chloroform vapours. Lab exposure exceeds permissible limits within 2 min without hood.