

SUSTAIN-FIT Call 2 — Researcher Seeking Industry Partner

Project Details

Project Title	Scalable Solid-State Formulation of Ultrashort Peptides via Hot-Melt Extrusion for Anticancer Applications
Research Area	Pharmaceutical solid-state formulation, hot-melt extrusion (HME), crystallization, polymorph screening - anticancer peptide applications
Program	SUSTAIN-FIT Call 2 - MSCA Seal of Excellence, co-funded by Enterprise Ireland & EU Horizon Europe
Primary Host	Dr. Vivek Verma, University College Cork (UCC)
Secondment Host	SSPC - SFI Research Centre for Pharmaceuticals, University of Limerick
Project Summary	<p>Ultrashort peptides show real promise as anticancer agents but rarely reach clinical development due to poor solid-state stability, low bioavailability, and the lack of a scalable manufacturing route. This project develops a crystalline solid dispersion platform using hot-melt extrusion, continuous, solvent-free, and GMP-compatible to convert these peptides into stable, industrially viable drug products.</p> <p>The work covers four stages: peptide-excipient compatibility and solid-state characterization; HME process development and optimization; polymorph risk assessment and stability studies for regulatory readiness; and pilot-scale manufacturing validation.</p>
Partner Contribution	<ul style="list-style-type: none"> • Confirming interest in the collaboration • Scientific guidance from your formulation or CMC team • Model compound or reference material (optional) • Facility access for scale-up validation (optional)
What You Gain	<ul style="list-style-type: none"> • Independent solid-state and HME formulation data in the anticancer space • Connection to UCC & SSPC's pharmaceutical industry network • Co-authorship on jointly derived findings • Solvent-free, sustainable formulation platform aligned with EU Green Deal

Researcher Profile

Name	Dr. Suresh Manivel
Current Position	Postdoctoral Researcher, University of Puerto Rico.
Expertise	<ul style="list-style-type: none"> • Solid-state chemistry and pharmaceutical crystallization • Hot-melt extrusion process development and scale-up • Polymorph screening and solid-form characterization (XRPD, DSC, Raman, FTIR) • Amorphous solid dispersion development and stability • Peptide-based drug substance formulation
Background	<p><i>PhD</i> at Bharathiar University focused on Crystallization and Polymorph screening. <i>Postdoctoral Researcher</i> at University of Puerto Rico focused on Polymer-Based formulation development, Solid-state Characterization</p>
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Companies in pharmaceutical development, formulation, biotech, or CDMO sectors are particularly welcome to make contact.