inpart Request for Proposals

Non-canonical Amino Acids for in vitro Display Systems

AstraZeneca aims to build a world class **peptide discovery platform**, combining **phage and mRNA display** technologies and amenable to the **incorporation of a wide variety of non-canonical amino acids (ncAAs)** in those display systems, from ncAAs capable of forming covalent bonds to enable new chemistries in peptides, such as cyclization, to ncAAs which can introduce novel physicochemical properties, such as altered hydrophobicity, charge, or backbone rigidity, to manipulate peptide solubility, cellular uptake, or overall structural dynamics.

The team at AstraZeneca is seeking solutions for the efficient **incorporation of ncAAs in phage and/or mRNA display systems** that allow for thioether macrocycle cyclisation and/or efficient incorporation of a range of amino acids. Proposed solutions to this challenge should meet the following solution requirements to be considered for funding by AstraZeneca. The selected collaborator will need to provide AstraZeneca with reagents allowing for at least one of the following:

- Efficient incorporation of ncAAs allowing for thioether macrocycle cyclisation in a phage display system. This should go beyond the simple use of evolved tRNA synthetases and overcome some of the limitations of stop codon reprogramming
- Efficient incorporation of ncAAs allowing for thioether macrocycle cyclisation in an mRNA display/cell free protein expression system
- Incorporation of other types of ncAA such as but not limited to N-methylated amino acids, fluorosulphate-amino acid, Aib, in an mRNA display/cell free protein expression system

Submission and Programme Information and Opportunity for Collaboration

AstraZeneca invites applications from both academic and biotech organizations. Applicants should complete the **proposal form** which should contain a brief, non-confidential overview of your proposal, including a workplan, approximate budgetary requirements, desired outcomes, and background on your research group. To submit your proposal, please visit the Inpart website, register, and submit your application form under the appropriate campaign. **Further details on the solution criteria can be found in the proposal form.**

AstraZeneca's CoSolve challenge is a global Open Innovation programme seeking collaborators with innovative solutions to real research challenges. These challenges lie within the company's R&D research focus areas and require solutions that are immediately translatable. Collaborators are sought who can bring innovative ideas that can be rapidly translated into tangible solutions. Working together, these ideas could help shape the development and delivery of new therapies and bring them to patients sooner.

Applications that are of interest will be selected to participate in the virtual Challenge Week - an intensive week where applicants will pitch their ideas and work with AstraZeneca scientists to transform their idea into a workplan. For selected winners from the challenge week, a **collaboration agreement** will be put in place with specified milestones and the winning projects can begin quickly.

Opportunities sought

- Research projects

Submissions

Please submit relevant, non-confidential opportunities online here

Deadline: **6th March 2026 - 11:59 pm GMT**

Have any questions?
Contact our team at discover@in-part.co.uk

AstraZeneca

AstraZeneca is a global, science-led biopharmaceutical business and our innovative medicines are used by millions of patients worldwide.