



ACS GCIPR Key Research Areas Grant – Greener Peptides

2026 ACS Green Chemistry Institute Pharmaceutical Roundtable Research Grant for New Methods or Strategies for Greener Peptide Synthesis and/or Purification

The [ACS Green Chemistry Institute Pharmaceutical Roundtable](https://gci.acs.org) (GCIPR) is a partnership between the ACS Green Chemistry Institute[®] and pharmaceutical-related corporations united by a shared commitment to integrate the principles of green chemistry and engineering into the business of drug discovery and production. Current members are Abbvie, Amgen, Astrazeneca, Bayer, Biogen, Biohaven, BMS, Boehringer Ingelheim, Ferring, Gilead, GSK, Ipsen, J&J, Lilly, Merck, Merck KGaA, Neurocrine, Novartis, Novonordisk, Pfizer, Roche-Genentech, Sanofi, Takeda, UCB, Vertex and the ACS Green Chemistry Institute. Associate members are Asymchem, Axplora, Bachem AG, ChemExpress, Codexis, Dr. Reddy's, EuroAPI, Hongene Biotech, Hovione, InnoSyn, Nitto Avecia, Olon, PharmaBlock, Pharmaron, Polypeptide, Porton, Sai Life Sciences, Sk Pharmteco, ST Pharm, Syngene, Veranova, and Wuxi AppTec. Affiliate members are Corteva Agriscience, Aralez Bio, FMC, Phlow Corp, PHT, USP, and Zoetis.

The ACS GCI Pharmaceutical Roundtable is seeking a one-year R&D commitment to assist the Roundtable's green chemistry initiative to develop strategies to improve solid phase peptide synthesis.

Proposals are invited from public and private institutions of higher education worldwide. This collaborative project is intended for a student within the selected Principal Investigator's research group. One grant is planned to be awarded and the total award is limited to \$80,000 for a grant period of 12 months. Interested PIs are required to provide a written proposal describing the investigator's capability to carry out the Roundtable's proposed research. Deadline for receipt of proposals is **May 1, 2026, at 5 p.m. EST**. All submissions must be made in our application portal: <https://gci.acs.org>. The Principal Investigator with the selected proposal will be notified by **October 1, 2026**. It is expected that research will commence in the principal investigator's lab no later than **Q4 2026** and last 12 months.

Requirements for Submission

Proposals will only be accepted from public and private institutions of higher education. The grant is not limited to institutions in the United States. Proposals must be submitted through our application portal at <https://gci.acs.org>, and applicants must provide the contact information for the grant officer who will process the grant if selected. For institutions without a grant office or a comparable administrative office, applicants must upload a PDF letter signed by an appropriate university official acknowledging the terms of the grant and accepting the role of financial officer for the grant.

Detailed Project Description

The use of peptides and peptide conjugates as therapeutic drugs has increased significantly in recent years due to their ability to target a wide variety of diseases with high specificity and low toxicity. Additionally, advances in drug design and delivery have improved the stability and bioavailability of peptide drugs. Unfortunately, the synthesis and manufacture of these drugs is generally not considered green due to several factors. First, the platform synthesis techniques, such as solid-phase synthesis, often used to prepare peptides generate large quantities of waste from solvents such as *N,N*-dimethylformamide, *N*-methyl-2-pyrrolidone, and dichloromethane. Next, an excess of reagents with significant safety concerns is often employed during amide bond formation, removal of deprotecting groups, and peptide cleavage. The dilute conditions used in macrocyclization or to limit aggregation during synthesis of peptides or peptide conjugates further drives waste generation. Finally, product purification is typically achieved by chromatography and results in the generation of large amounts of organic waste.

The goal of this work is to develop strategies for greener synthesis and purification of peptides. The use of greener solvents/reagents is highly encouraged (refer to the [ACS GCI Pharmaceutical Roundtable Solvent Tool](#) or [CHEM21 Solvent Selection Guide](#)). Methods that result in a reduction of the PMI ([Process Mass Intensity](#)) and/or PMI-LCA ([Process Mass Intensity-Life Cycle Assessment](#)) are also desired. Approaches that may be utilized to accomplish these may include, but are not limited to:

- Green, scalable, and cost-effective peptide synthesis methodologies such as:
 - Native Chemical Ligation
 - Chemoenzymatic Peptide Synthesis
 - Tag Assisted Liquid-Phase Peptide Synthesis or related approaches
 - Electrochemistry
 - Mechanochemistry
 - Flow Chemistry
 - Photochemistry
 - Recombinant approaches, including semi-synthetic or hybrid strategies (especially when non-natural amino acids are present in target peptide)
- Greener Purification Methods
 - Reduced chromatography or chromatography-free systems
 - Alternative chromatographic modalities (e.g new and powerful separation mechanisms)
 - Membrane-based purification approaches

Project Goal

Provide novel methods and/or strategies for greener synthesis and purification of peptides.

Project Timeline

It is expected that one year of research support will be sufficient to provide progress toward intended goals.

Proposal Format

Please be prepared to provide the following information in the application portal:

1. Name and email of grant officer
2. Name, title, phone, email and address of the Principal Investigator
3. Project Title
4. Abstract (200 words)
5. Research Group website
6. PDF of Proposed Plan of Work (*2 pages, 12 pt font, 1-inch margins*)
 - Objectives: Briefly state the project objectives
 - Project Approach: Include specific aims and investigations planned
 - Proposed milestone deliveries with brief description of the manner in which the researcher intends to achieve them
 - Brief description of the PI's research facilities and summary of the student's (undergraduate, graduate student and /or postdoc) capabilities to perform the proposed work
 - References (does not count toward your page limit)

Note: The PI should list any existing background intellectual property and/or collaborations they are aware of that might limit the freedom to operate any of the results arising from any research funded by ACS GCIPR. The priority of the Roundtable is to encourage research utilizing reaction conditions that are commercially viable with the freedom to use.

7. PDF of Detailed Estimated Budget: The total amount requested would include all direct costs, student assistantships, etc. The total award is limited to \$80,000 for a grant period of up to 12 months.
 - Institutional overhead costs (indirect costs) should not be more than 10% of the total budget.
 - Post-doctoral associate salary and benefits are supported.
 - Student stipend and benefits are supported. Proposals for support of advanced graduate students are strongly encouraged.
 - PI salary supplements will not be supported.
 - Laboratory supplies and instrument use charges are supported.
 - No funds may be allocated for travel, equipment purchase or repair, or administrative support.
8. Curriculum Vitae of Project Team Members: Please submit a curriculum vitae of each project team member (up to two pages per team member, combined into the same PDF document as the project description). This does not count toward your page limit.

Report Requirements

- Progress reports/research updates are due monthly or bi-monthly from initiation of research and will be discussed in arranged web-conferences. All reports/updates will be shared with the member companies of the Roundtable.
- Reports/updates should include research milestones/significant outcomes, summary of progress to date noting any deviations from the proposal, and research plans for upcoming months.
- A final comprehensive report is due one month after the end of the grant period. This report must be submitted as a PDF document electronically to gcipr@acs.org. In addition, the content of the report should be targeted for publication in a peer-reviewed technical journal. The paper will be co-authored by the principal investigator and student(s) performing the work. Representatives of member companies who make intellectual contributions to the project should be recognized as authors.

Intellectual Property, Publication Acknowledgement, and Terms of the Grant

- The primary purpose of this grant is the public dissemination of research through publication.
- Every patent, United States or foreign, that results from research funded (in part or in its entirety) by the ACS GCIPR Research Grant shall be immediately dedicated to the public, royalty free.
- Publication of results is expected within 6 months of work completion.
- Each publication prepared in connection with an ACS GCIPR Grant shall make acknowledgement in the following manner: “This manuscript was developed with the support of the ACS Green Chemistry Institute Pharmaceutical Roundtable (<https://www.acsgcipr.org>), under Grant No. XXXXX. The ACS GCI Pharmaceutical Roundtable’s mission is to catalyze green chemistry & engineering in the global pharmaceutical industry.”
- Acceptance of a Roundtable Grant will be conditional upon agreement by the grantee institution that in the event the Principal Investigator is unable for any reason to conduct the research proposed, the funds, if previously paid by the Roundtable, shall, upon demand, be returned in full to the Roundtable, and further, that in the event the PI is unable for any reason to continue with the research after it has commenced, this grant shall be terminated forthwith and the unexpended and unencumbered balance of any funds theretofore advanced shall be returned to the Roundtable.
- The grantee institution, by acceptance of this grant, provides assurance that support normally provided by the institution for research of the faculty member will not be diminished.

- Applicants may have only one research grant with the ACS GCIPR at a time. In order to close a grant, the ACS GCIPR must receive and approve the required reports.

For additional information:

Website: www.acsgcipr.org

Email: gcipr@acs.org