PARTICIPANT ADDENDUM | DRAFT FOR DISCUSSION

What May the $20,000 SPARC Service Award Include?

An idea-generating guide to SPARC capabilities across Targets, Chemicals, and Patient Cohorts.

This is an illustrative service menu, not a guaranteed package. A selected project will receive a jointly defined scope valued at up to $20,000 in SPARC services. The final mix depends on scientific readiness, data availability, technical feasibility, and the decision the team needs to make.

How to think about the award

The award is intended to remove a focused computational or translational bottleneck. A practical project may emphasize one primary service module and a limited number of supporting analyses rather than attempting the entire discovery pipeline. During scoping, SPARC and the team will agree on the question, inputs, assumptions, deliverables, validation handoff, and stopping point.

Pillar 1 - Targets: discover what to treat

Potential services include:

- AI-assisted target identification and prioritization
- Literature, database, and knowledge-graph evidence synthesis
- Integration of genomic, transcriptomic, proteomic, metabolomic, spatial, or single-cell evidence
- Cell type-, tissue-, disease stage-, and patient subgroup-specific mechanism analysis
- Pathway, network, causal, and systems-pharmacology modeling
- Target novelty, tractability, safety, and competitive-landscape assessment
- Predictive, pharmacodynamic, and patient-selection biomarker hypotheses
- Modality selection across small molecules, antibodies, peptides, proteins, RNA therapeutics, degraders, gene therapies, and rational combinations

Illustrative deliverables

A ranked target portfolio; target-evidence dossier; cell type-specific mechanism map; target-product-profile inputs; biomarker hypothesis; modality recommendation; or an experimentally testable mechanism-of-action model.

Pillar 2 - Chemicals: design what to give

Potential services include:

- Structure- or ligand-based virtual screening and hit prioritization
- Generative design of novel small molecules and chemical series
- Molecular docking, molecular dynamics, and binding-mode analysis
- Multi-objective optimization for potency, selectivity, solubility, permeability, metabolic stability, tissue exposure, and early safety flags

- CNS penetration or other tissue-specific property optimization
- Synthetic feasibility, structural diversity, and candidate down-selection
- Antibody epitope or paratope analysis; affinity, specificity, humanization, and developability assessment
- Drug repositioning, indication expansion, and mechanism-supported candidate ranking
- Rational combination design, synergy prediction, resistance modeling, and off-target assessment

Illustrative deliverables

A prioritized purchase or synthesis list; novel candidate structures; ranked antibody concepts; optimization recommendations; a repurposing evidence package; a combination-therapy shortlist; or a computational candidate dossier ready for experimental testing.

Pillar 3 - Patient Cohorts: design who and how to treat

Potential services include:

- Computational phenotyping and clinically meaningful subgroup discovery
- Biomarker-based cohort enrichment and responder identification
- Disease-progression and treatment-response modeling
- Privacy-aware synthetic-patient or virtual-population generation, when scientifically and operationally appropriate
- Patient digital twins and quantitative systems pharmacology models
- PK/PD, dose, schedule, efficacy, and toxicity simulation
- Virtual clinical-trial assessment of eligibility criteria, endpoints, sample size, and design alternatives
- Evaluation of heterogeneity, bias, transportability, and generalizability
- Real-world evidence analysis supporting repurposing or indication expansion, subject to data access and governance

Illustrative deliverables

A computable cohort definition; responder signature; synthetic cohort; virtual-population model; trial-simulation report; dose or endpoint recommendation; or a biomarker-enriched clinical-development concept.

Cross-pillar project examples

- Identify a cell type-specific disease mechanism, select an appropriate modality, and define a biomarker-enriched patient population.
- Convert a newly published mechanism into a short list of drug-like candidates and an assay-ready validation package.
- Reposition an approved drug for a molecularly defined subgroup and simulate a feasible proof-of-concept trial.
- Design an antibody or combination strategy to overcome resistance, then identify the patients most likely to benefit.
- Use patient data to explain variable response, nominate a mechanism, and generate a testable therapeutic intervention.

What teams should be prepared to contribute

- A clearly defined scientific or clinical decision
- Accessible data in an analyzable form, with appropriate permissions
- Domain experts who can interpret results and make program decisions
- A validation owner, assay, model, cohort, or committed validation partner
- Timely feedback, documentation, and participation in agreed project meetings

Generally outside the award unless explicitly scoped

- Large-scale data acquisition, manual chart abstraction, or extensive data rescue
- Compound synthesis, compound purchase, wet-lab reagents, assay execution, organoid studies, animal studies, or clinical recruitment
- IRB preparation, regulatory submissions, patent filing fees, licensing expenses, CRO charges, or other third-party costs
- Open-ended software development, indefinite optimization cycles, or guaranteed experimental success

SPARC may help design these downstream activities, connect collaborators, or incorporate them when resources and an explicit project agreement permit; teams should not assume they are included in the standard award.

A strong service request sounds like this

> **Using our published mechanism, accessible single-cell dataset, and established organoid assay, help us prioritize a cell type-specific target, nominate a suitable therapeutic modality, and deliver a short list of candidates plus biomarkers for validation.**

The most useful request names the decision to be made, the evidence already available, the SPARC work needed, the intended deliverable, and the experiment or translational step that follows.

Resources

SPARC: https://sites.uab.edu/sparc/
Collabofest: https://ubrite.org/2026collabofest/