REQUEST #RFP_2019_0201
Transfer/Release to Vascular Tissue Technology

RESPONSE DUE DATE: December 26, 2019

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Opportunity
Joint/contract research, development, licensing

Timeline
Start of joint research/development within 1 year

Financials
Details open to negotiation based on proposals

DESCRIPTION
NineSigma, representing a Japanese medical device manufacturer (“Client”), seeks technology to quickly transfer drug from balloon to vascular tissue and sustain release for a long time.

The Client desires to develop a drug-coated balloon (DCB) by combining their proprietary technology with proposed technology. The challenge is, however, to transfer the drug into the vascular tissue in a short time and retain and elute it for an extended time. Therefore, the Client wants to develop a new DCB by combining drugs and drug delivery system (DDS) technology that meet the following requirements:

Characteristics of drug to be used
- Molecular weight: approx. 1000
- Physical property: hydrophobic
  The aforementioned drug is to be the first target of DCB development, but the Client intends to try several other drugs in the future.

Technological requirements
The Client seeks DDS technologies that meet the following requirements:
- Targeted vascular sites:
  1. Blood vessels in femoral-popliteal area
  2. Blood vessels below knee
- Administration method: Coat the balloon of the balloon catheter with the drug and transfer to targeted vascular sites mentioned above

[Formulation profile]
- Fast and high transferability into vascular tissue
  - Transfer time: ≤3 min
  - Transfer rate: Desirably, ≥80 % in the future
- Desirable to keep eluting the drug for more than 6 months after the transfer

POSSIBLE APPROACHES
The Client expects technologies such as the following approaches, but is open to others as long as the aforementioned technological requirements can be met:
- Technology that encapsulates the drug in microparticles or nanoparticles, coats the balloon with particles, and make particles be quickly absorbed into the inner lining of a blood vessel

Figure. Conceptual diagram of DCB under consideration of development
APPROACHES NOT OF INTEREST
The following approaches are not of interest:
- Technology that keeps intravitaly irresolvable material inside a blood vessel for a long time, such as metallic stent

ITEMS TO BE SUBMITTED
Please include the following items in your proposal:
- Outline of proposed technology (e.g., principle, characteristics, uniqueness)
- Related data (Please include data you have currently obtained: e.g., rate of transfer to vascular tissue, retention time)
- Current stage of research and development
- Intellectual property status related to the proposals
- Other (e.g., Requests concerning collaboration)
- Profile of proposer

Please submit your proposal via NineSights, the platform of NineSigma’s Open Innovation community, which allows you to manage all your proposals. Please contact the Solution Provider Help Desk phd2@ninesigma.com for assistance about registration and proposal submission.

NOTES ON RESPONSE
Proposal shall have clear points and should not include confidential information. Supplemental files may be submitted in addition to the proposal.

RESPONSE EVALUATION
The client will evaluate all responses with the following criteria.
- Overall scientific and technical merit
- Approach to proof of concept or performance
- Economic potential of concept
- Realism of the proposed plan (action items, timeline, roles, deliverables, cost estimation)
- Potential for proprietary position
- Respondents’ capability and related experiences

ANTICIPATED PROJECT PROCESS
After the submission due date, the client will review all submitted proposals. NineSigma will send the review results to each proposer 6-8 weeks after the due date. The client possibly asks clarifying questions before selecting the most suitable candidates for collaboration. The client will select best candidates through evaluations. During the selection process, the client may execute NDA with selected respondents, seek further information disclosure, and discuss specific development targets or potential opportunities. The client will execute necessary agreements with the selected respondents and move to the advanced development phase. Specifics of any collaboration will be determined through consultation with the concerned parties.