REQUEST RFP_2018_3887
Natural Agent with Antimicrobial or Bacteriostatic Activity against Molds and Yeasts

RESPONSE DUE DATE: 20th December, 2018

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Opportunity
Licensing, joint development, supplier agreement

Timeline
Phase 1: Evaluation using a sample of potential agent: 6 months to 1 year
Phase 2: Verification of commercialization: 1 to 2 years (after completion of Phase 1)

Financials
Necessary development expense will be covered (Details to be discussed).

DESCRIPTION
NineSigma, representing a multibillion-dollar global beverage manufacturer, seeks a natural agent with an antimicrobial or bacteriostatic activity against molds and yeasts, as well as its derived component. The client ultimately wishes to apply the sought agent to beverage development; however, proposals for an agent that has been proven applicable not only to beverages, but also to food, pharmaceutical products and cosmetics are welcome from a wide range of industries.

It is preferable that an agent can exert its effect when used alone; however, the client also seeks proposals for combined use of multiple natural antimicrobial and/or bacteriostatic agents and for a masking technology for an antimicrobial or bacteriostatic agent that is known to adversely affect taste and flavor.

Requirements of the natural antimicrobial/bacteriostatic agent
- The agent should be naturally derived. (natural component, or its extract or fermented product)
- There should be a history of safe use for food and no safety issues.
- The taste or flavor should not be disturbing.
- The agent should be soluble in water.
- Preferably, mass production should be possible or likely to be possible.

Anticipated use environment and required performance
- Target microorganisms: The sought effect should be exerted on molds and yeasts.
  - The effect should be as high as that of commonly used preservatives, such as sodium benzoate and sorbic acid.
- Heat resistance: The effect should not be lost by heating at 90–100°C for a few seconds.
- pH: The effect should be exerted at pH 3.5-4.0.

In addition to the above, the client anticipates a variety of proposals for an agent against the following microorganisms under the conditions below:
- Target: Heat-resistant acidophilic bacteria (spore forming bacteria)
Background

While a heating process combined with artificial preservatives is currently used to prevent microorganisms in soft drinks from deteriorating, consumers’ growing interest in natural products in recent years is creating the need to avoid artificial preservatives and increasing the demand for use of naturally derived antimicrobial and bacteriostatic agents.

Nevertheless, many of the existing natural antimicrobial agents, when the effective amount is added, have a negative impact on taste and flavor, and have poor heat resistance.

R&D activities on novel natural antimicrobial and bacteriostatic agents, on the other hand, have been conducted actively in the food industry as well as the cosmetics and pharmaceutical fields. The client has thus issued this open request to seek a potential solution or technology from various industries around the globe.

Possible Approaches

Possible approaches include, but are not limited to, the following naturally derived antimicrobial and bacteriostatic agents:

- Extracts and fermented products from fruit and vegetable juice
- Extracts and fermented products from herbs and other plants
- Microorganism-derived components and microorganism metabolites
- Combination of the above

Approaches Not of Interest

The following approaches are not of interest:

- Chemically synthesized antimicrobial and bacteriostatic agents
- Agents reported to have safety concerns in human

Items to Be Submitted

NineSights, the platform of NineSigma’s Open Innovation community, allows you to manage all your proposals. Please contact the Solution Provider Help Desk phd2@ninesigma.com for assistance about registration and proposal submission. Proposal may include the following items along the response form shown by clicking the “Respond” button.

- Overview of the technology
- Uniqueness of the technology
- Development stage
- Current performance
- Use conditions, such as the addition amount and temperature, at the time of the above effect evaluation
- Impact on taste and flavor (if possible)
- Heat-resistant temperature
- Optimal pH
- Prospect for mass production
- Current challenges and future plans

Please include the following items to the extent possible:

- Development period
- Development cost

Conditions for sample testing

Please include the following items to the extent possible:

- Quantity that can be provided
- Cost
- Lead time
- Terms of agreement, etc.

Possibility of scale-up

Past achievements (e.g. additional information supporting the R&D capabilities, such as research papers and patents)

Request regarding the intellectual property right

Organization overview

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 reviewing submitted proposals, the client possibly ask 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.