

## opn2EXPERTS: Role of exosomes in the pathogenesis of fibrotic disease

How do you propose identifying the protective or pathological role of exosomes in the pathogenesis of IBD, SSc and ILD and their possible detection as liquid biopsies for diagnosis and monitoring of disease progression?

Answers to this [question](#) including a proposal for collaboration can only be considered if they arrive no later than August 31, 2020 12:59 pm PST.

### What is the context of the problem that we would like to solve?

Exosomes are extracellular particles released by the majority of cells in the human body. Their composition and function can change rapidly in response to various physiological stimuli. Due to their relatively high stability, exosomes can be detected in blood and other body fluids at a distance from their tissue of origin and their characterization can provide important information about the nature and progression of pathological processes in the body. Inflammatory bowel disease (IBD), Systemic sclerosis (SSc) and Interstitial lung disease (ILD) share similar phenotypes of aberrant tissue remodeling (ie. fibrosis). Although substantial progress has been made in the treatment of these diseases, many patients remain without effective medications that target disease progression and tissue damage. Exosomes derived from different cell types may exert a variety of effects due to the functional presence of nucleic acids, proteins and other macromolecules. In addition to their potential use as biomarkers for disease diagnosis and progression, in depth characterization of exosomes in the context of the disease setting offers an exciting promise for the identification of contents with both pro- and anti-fibrotic properties.

## What potential solutions could be in scope?

The following potential approaches to answer our question include, but are not limited to the following:

- Identification and description of cellular sources of exosomes and their effect on disease-relevant pathological pathways
- Molecular analysis of the macromolecules and other active agents present in exosomes that may display protective or pathological functions relevant to the pathogenesis of IBD, Ssc or ILD
- Analysis of exosomes in biofluids such as blood, urine or saliva from patients suffering from IBD, Ssc, ILD or related diseases and identification of qualitative and/or quantitative changes of their contents due to the ongoing pathogenic processes
- Analysis of exosomes in biofluids such as blood, urine, saliva or alveolar fluid and identification of qualitative and/or quantitative changes of their contents in animal models of IBD, Ssc and ILD
- Characterization of exosome crosstalk within fibrotic tissues similar to that previously described in tumor settings (e.g. between tumor cells and cancer associated fibroblasts)

## What potential solutions would be out of scope?

- Proposals focused on exosome functions that are unique or specific to non-human species
- Proposals lacking applications to the disease setting.
- Proposals that are focused solely on exosome biogenesis and uptake independent of the disease setting

## What benefits do we offer to you in exchange for having submitted a solution?

We are open to all proposals that can fully or partially meet its requirements.

If your project is selected, you will have the opportunity to directly collaborate with the Immunology and Respiratory Disease Research team of Boehringer Ingelheim. You can

expect appropriate funding for the prospective collaboration period. Your exact funding request should be outlined in your proposal. As a framework, we suggest that your initial funding request is structured in milestone and does not exceed 200,000 euros per submitted project in total.

The opportunity for a funded stay at Boehringer Ingelheim for technology exchange / training is potentially available, as is the availability of custom biological tools and reagents.

Our collaboration agreement will provide full transparency about each partner's rights & obligations (including intellectual property rights). As part of the agreement, you will be encouraged to publish following the collaboration agreement (to be negotiated in good faith).

To maintain the highest degree possible in an open innovation environment, we plan to announce the winner(s) publically and feature them on opnMe.com and our social media channels. We would guide you through this process and as part of it we would kindly ask for your upfront consent, in case our scientific jury had selected your answer.

## **What are the key success criteria on which we base our selection for the best answer?**

We are seeking research collaboration proposals that contain:

- A well-structured proposal outlining a new and compelling scientific idea,
- A novel, testable working hypothesis distinct from those previously published,
- Framing the questions and the innovation aspects which includes a well thought-through project plan with key decision points and budget requirements,
- Proven track record in the required field of expertise,
- Outlining the technical feasibility of the innovative proposed approach,
- The quality and feasibility of potentially existing data and/or the experimental plan that will be used to test the hypothesis.
- Ability to implement the outlined solution as part of a scientific collaboration project including access to a laboratory.

## What information should be included in your answer submission?

Please use our answer submission template to provide a 2-3 page non-confidential proposal (available for download on the following [site](#)).

If confidential data exists that would strengthen the proposal, please indicate that confidential information is available to share under a Confidential Disclosure Agreement (CDA). If we find the non-confidential concept proposal sufficiently interesting, we will execute a CDA for confidential discussions.

## Anticipated Project Phases or Project Plan

- Phase 1 Please complete your submission by **August 31, 2020 12:59 pm PST** the very latest.
- Phase 2 Our review of Proposals will start in September 2020 and we aim to finalize our review within four to six weeks.
- Phase 3 Potential collaboration starting date late Q4/2020 or Q1/2021

## Submitting a collaboration proposal

- Check the outline of the [opn2EXPERTS Exosomes question](#) on opnMe or alternatively,
- Click the “Download your answer submission template” banner to access the collaboration submission template.
- Follow the instructions upload your submission document (requires login or registration).
- The upload allows you to attach additional application files if you want to.
- You will be able to access your final submitted collaboration proposal in your personal dashboard and follow its review status.
- Please also visit the [FAQ section](#) on opnMe.com to learn more about our opn2EXPERTS program.