

opn2EXPERTS – Novel strategies to selectively target adipose tissue

How would you propose to identify and verify novel approaches to specifically target adipose tissue for delivery of anti-obesity therapeutics?

Answers to this [question](#) including a proposal for collaboration can only be considered if they arrive no later than June 7, 2021 11:59 pm PST.

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

Based on estimations by the World Health Organization, approximately 300 million people will be obese in 2035. With this, obesity presents a major health concern with increasing prevalence worldwide.

Therapies aiming at regulating food intake currently present the most effective medical treatment for obesity. However, as reduction of food intake is usually accompanied by reduced energy expenditure, efficacy of such approaches and in particular the potential for sustained weight loss is limited. Therefore, combinations with energy expenditure increasing mechanisms are urgently needed.

Exploiting the full therapeutic potential of energy expenditure mechanisms needs to incorporate adipose tissue specific mechanisms, as it presents a major tissue regulating energy metabolism. Pharmacological utilization of therapeutic targets within adipose tissue ultimately depends on tissue-selective drug delivery. Whereas progress was made in the past targeting liver via N-acetylgalactosamine (GalNAc)-conjugates and tissue specific cell surface receptor, no suitable surface proteins were identified that exclusively express in adipocytes. Based on the urgent need to incorporate energy expenditure mechanisms in the treatment of obesity, there is a high interest in identifying and characterizing novel approaches for a cell-type specific targeting of adipose tissue.

What potential solutions could be in scope?

1. Any unconventional but feasible approach that allows identifying and verifying adipose tissue-specific molecules for drug-delivery approaches, from biological matrices such as primary cells, cell lines, organoids, or tissues. Different adipose depots, e.g. white and brown adipose tissue, are considered equally relevant. The species is not only limited to humans, however, proposals demonstrating feasibility in human systems are prioritized.
2. In addition, any already identified adipose-specific molecule or technical approach to specifically target adipose tissue, not yet public or described in the context of obesity is of interest, provided that there is a translatability to humans or at least evidence in metabolic relevant cellular or animal models.
3. The proposal needs to be highly feasible, should be based on established and existing methods, assays and involve tools or reagents that are either available or which can be easily produced. We expect that the project will be executed in your laboratory and takes advantage of existing technologies and assays.

What potential solutions would be out of scope?

Please note that any proposal ultimately inhibiting adipogenesis or ablating adipose tissue will not be considered.

Projects that are based on technologies that require first substantial establishment and validation (no previous hands-on experience) will be deprioritized.

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 Cardio Metabolic Diseases Research team of Boehringer Ingelheim. You can expect appropriate funding for the prospective collaboration period. The exact funding request should be outlined in your proposal. As a framework, we suggest that your initial funding request is structured in milestones 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) publicly 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 approach.
- Outlining of the technical feasibility, and potentially existing data or previous publications that support feasibility / experience with outlined technology, based on existing techniques and established assays.
- Your exact funding request should be outlined in your proposal based on a well-thought-through project. The project should be structured in milestones and planned with key decision points (clear Go/No-Go criteria). The funding request for the initial milestones resulting in a Go/No-Go decision should not exceed 200,000 euros per submitted project in total.
- Proven track record in the required field of expertise.
- Ability to implement the outlined solution as part of a scientific collaboration project with Boehringer Ingelheim 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 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 June 7, 2021 11:59 pm PST the very latest
Phase 2	Our review of all proposals will be completed during the 2 nd half of July 2021 and scientists will be informed afterwards.
Phase 3	Potential collaboration starting date Q4/2021.

Submitting a collaboration proposal

- Check the outline of the opn2EXPERTS [“Novel strategies to selectively target adipose tissue”](#) on opnMe.
- Alternatively, you may click the “Get Answer Template” banner to access the collaboration submission template.
- Follow the instructions to upload your submission document (requires login or registration).
- The upload allows you to attach additional application files if desired.
- 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.