opnMe by Boehringer Ingelheim

opn2EXPERTS – Identification of novel anti-obesity peptides

How would you propose to identify and verify novel peptides that alone or in combination can lead to an unprecedented and/or sustainable weight loss?

Answers to this question including a proposal for collaboration can only be considered if they arrive no later than March 18, 2021 11:59 pm PST.

Boehringer Ingelheim

Table of contents

What is the context of the problem that we would like to solve? 2
What potential solutions could be in scope? 2
What potential solutions would be out of scope? 2
What benefits do we offer to you in exchange for having submitted a solution? 3
What are the key success criteria on which we base our selection for the best answer? 3
What information should be included in your answer submission? 4
Anticipated Project Phases or Project Plan 4
Submitting a collaboration proposal 4
References 5

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

There is a high prevalence of obesity worldwide without efficient therapies. Diet and exercise interventions as well as current pharmacotherapy are often insufficiently effective on body weight lowering. Current anti-obesity therapies address: 1. Inhibition of food intake, 2. Increasing energy expenditure, or 3. Energy loss mediated through either energy excretion (e.g. glucose excretion) or limited energy absorption[1].

Already well established and currently the most effective medical treatment of obesity (via food intake inhibition) are stable glucagon-like-peptide (GLP-1) receptor agonists (GLP-1RA) such as liraglutide and semaglutide. In addition, the glucose-dependent insulinotropic polypeptide (GIP), mainly secreted from endocrine cells in the gut, like GLP-1, as well as the pancreatic peptide glucagon, with its energy expenditure features towards thermogenic capacity, have gained increased interest over the last years, especially for combinations[1]. Furthermore, other organs such as the kidney (GDF15) or adipocytes (leptin) also produce peptides with profound anti-obese action. On the other hand, peptidic concepts which increase energy excretion and limit energy uptake are less known. Based on the urgent need to introduce new approaches for treating obesity, there is high interest in identifying or characterizing novel peptides that influence the metabolic homeostasis either as single agent or in combination.

What potential solutions could be in scope?

1. Any unconventional but feasible approach that allows identifying and verifying peptides with anti-obese functions (mechanisms described above 1.-3.) from biological matrices such as primary cells, cell lines, organoids, fluids, or tissues. The species is not only limited to humans but may also involve other mammalian species such as rodents or pigs.
2. In addition, any already identified peptide, 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 proposals referring to already known anti-obese peptides such as GLP-1, NPY, etc. will not be considered. The same holds true for solely anti-diabetic peptides (e.g. insulin and pure insulin-secretagouges).

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 the requirements of our question.

If your project is selected, you will have the opportunity to collaborate with the CardioMetabolic Diseases Research team of Boehringer Ingelheim, with the possibility to interact and exchange with highly specialized experts from clinical or preclinical research. 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 milestones and does not exceed 200,000 euros per submitted project in total. In addition, we have reserved funding of up to 500,000 euros for up to two proposals each that exceed our expectations in terms of novelty and include highly innovative and potentially cost-intensive approaches. Please outline in your application accordingly.

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 of transparency 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. As mentioned before, we plan to provide funding of up to 500,000 euros each for two proposals in case the proposed idea exceeds our current expectations.
- 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 **March 18, 2021 11:59 pm PST** the very latest
Phase 2	Our review of all proposals will be completed by April 30, 2021 and scientists will be informed beginning of May 2021
Phase 3	Potential collaboration starting date late Q2-3/2021

Submitting a collaboration proposal

- Check the outline of the opn2EXPERTS Identification of novel anti-obesity peptides 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.

References

1. Müller T., Clemmensen C., Finan B., DiMarchi R., Tschöp M. Anti-obesity therapy: from rainbow pills to polyagonists. *Pharmacological reviews* **2018**, *70*, 712-746. DOI: 10.1124/pr.117.014803, PubMed