

# EU-OPENSREEN-DRIVE: Chemoproteomics and Mass Spectrometry Imaging (MSI) call 2021

## Guidelines for scientific reviewers

The second EU-OPENSREEN-DRIVE chemoproteomics and MSI call 2021 aims at increasing the understanding of mechanisms of action by which a tool compound or drug discovery lead compound exerts its pharmacological effect. The users are offered access to target-based and phenotype-based workflows, proteomics and related advanced mass spectrometry (MS) based technologies and mass spectrometry imaging for compound disposition studies. EU-OPENSREEN-DRIVE chemistry partner sites together with partners with proven track-records in probe development, target deconvolution and MS imaging will support at least **3 successful applicants providing collaboration on target identification and/or compound disposition studies**.

The review process of applications consists of 2 steps of evaluation (technical and scientific). You are currently undertaking the **scientific review step** that follows an initial technical feasibility evaluation step. Please notice that:

- As Reviewer, you are bound to respect the confidentiality of information provided in a DRIVE proposal. Reviewers must not disclose or otherwise exploit this confidential information for any purpose.
- As Reviewer, you will evaluate the following criteria of the proposal: Scientific Excellence, Impact and Innovation Potential, PI and Research staff, Project Feasibility and Gender Aspects. Please see below a complete overview of the evaluation criteria.
- A thorough evaluation of the Scientific Excellence of the proposed work is essential to prioritize proposals (since a limited number of projects will be funded).
- Each evaluation criterion must be scored (total score is 40, threshold for acceptance is 24)
- Reviews should be returned within 2 weeks.

Please consider that applicants have been required to provide the following **pre-requisites for application** (more information about the call can be found at <https://drive.eu-openscreen.eu/drive-startseite/calls/chemoproteomics-and-msi-call-2021.html>)

- Confirmed phenotypically determined concentration-dependent cellular/ or organismal activity in the lower  $\mu\text{M}$  range;
- Ideally, preliminary results regarding structure-activity-relationships (SAR);
- Information on Pan-assay interference (PAIN) analysis of the structure;
- Availability of sufficient amounts of isolated compound with purity > 95% (amount indicated by the user will restrict or expand the possible options for target deconvolution);
- If available, (bio)synthetic protocol for the preparation of HIT compounds (preferentially bearing functional groups for further modification, which would not interfere with activity);
- If available, preliminary hypotheses around mode of action or target protein for compound to be tested;
- Sufficient amount of biological material of interest or cell lysate or other lysates thereof.

Specific additional requirements for MSI experiments:

- Knowledge of pharmacokinetic parameters of the test drug (e.g. half-life, bioavailability, maximum tolerated dose, dosing route, initial formulation).



- Collected tissues from animal studies, stored and transported to EU-OPENSREEN-DRIVE facility(ies) accordingly, providing necessary documentation (if needed). Access to available embedding protocols (if needed) upon request.

### Scientific review form. \*mandatory fields

**Scientific Excellence 1: is the proposed project of high scientific quality with clearly defined background and follow up steps?\*** Please score this question and insert your comment in the text box below. Score: 1-6 (score 6= outstanding; 5= excellent; 4= good; 3= average; 2= satisfactory/fair; 1= poor/non-competitive)

**Comments:\*** justify your score on Scientific Excellence 1.

**Scientific Excellence 2: is the overall strategy, methodology, and research background well-reasoned and appropriate to accomplish the specific objectives of the project?\*** Please score this question and insert your comment in the text box below. Score: 1-6 (score 6= outstanding; 5= excellent; 4= good; 3= average; 2= satisfactory/fair; 1= poor/non-competitive)

**Comments:\*** justify your score on Scientific Excellence 2.

*Threshold for Scientific Excellence: 7/12*

**Impact and Innovation Potential 1: is the research proposed novel in terms of target, approach and/or methodology proposed?\*** Please score this question and insert your comment in the text box below. Score: 1-4 (score 4= the proposal is highly innovative/ original; 3= the proposal is innovative/ original; 2= some elements of the proposal are innovative/ original; 1= the proposal is not innovative/original)

**Comments:\*** Justify your score on Impact and Innovation Potential 1.

**Impact and Innovation Potential 2: has the proposed project an impact on science with significant value in drug discovery?\*** Please score this question and insert your comment in the text box below. Score: 1-4 (score 4= high impact; 3= moderate impact; 2= fair impact; 1= low or very low impact)

**Comments:\*** Justify your score on Impact and Innovation Potential 2.

*Threshold for Impact and Innovation Potential: 5/8*

**PI and Research Staff 1: is the PI's track-record adequate for leading the project?\*** Please score this question and insert your comment in the text box below. Score: 1-4 (score 4= excellent; 3= good; 2= satisfactory/fair; 1= poor/ non-suitable)

**Comments:\*** justify your score PI and Research Staff 1.

**PI and Research Staff 2: have the PI and his/her research team members the adequate expertise and capabilities to follow-up the proposed project?\*** Please score this question and insert your comment in the text box below. Score: 1-4 (score 4= excellent; 3= good; 2= satisfactory/fair; 1= poor/ non-suitable)

**Comments:\*** justify your score PI and Research Staff 2.

*Threshold for PI and Research Staff: 5/8*

**Project Feasibility 1: does the proposed research fit to the service pipelines (e.g. chemoproteomics and/ or mass spectrometry imaging) described in the call text?\*** Is the research workflow/ approach well defined? Please score this question and insert your comment in the text box below. Score: 1-4 (score 4= the research workflow/ approach is well defined; 3= the research workflow/ approach is partly defined; 2= the research workflow/ approach is fairly defined; 1= poor information available/ non-suitable)



**Comments:**\* *justify your score on Project Feasibility 1.*

**Project Feasibility 2: does the proposal contain sufficient information supporting the feasibility of the experimental work? Attention should be paid to the availability of chemical and biological materials, compound cellular or organismal activity, preliminary SAR, synthetic availability of the compound and its further functionalization, and availability of pharmacological data for MSI studies.\* Please score this question and insert your comment in the text box below.** Score: 1-4 (score 4= the proposal successfully addresses all essential aspects to support the project feasibility; score 3= the proposal addresses essential aspects to support the project feasibility with a number of shortcomings; 2= the proposal addresses only few aspects to support the project feasibility; score 1: poor or no sufficient information have been provided to support the feasibility of the project.

**Comments:**\* *justify your score on Project Feasibility 2.*

*Threshold for Project Feasibility: 5/8*

**Gender Aspect: are gender aspects of the proposed research well described?\*** *Please score this question and insert your comment in the text box below. Please consider if gender aspects were addressed in both, the group/ team and in the research content.* Score 1-4 (score 4= gender aspects are well described; score 3= gender aspects are partially described; score 2= gender aspects are fairly addressed; score 1= poor or no information provided)

**Comments:**\* *justify your score on Gender Aspect.*

## Scores

**Total score of the scientific evaluation\*:** *this field is calculated automatically*

**Additional comments for the applicant:** *please add here any additional comment*

**Recommendation for the selection panel and final comment on the project:\*** *please comment here your final decision*

Maximum score= 40

Threshold score for acceptance= 24

Rejected scores= 0-23

The Moderator will make both the scores and the reviewers' comments available to the applicant when feedback on the decision is given.

