

## Centro 3R: Organ and tissue sharing project

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### Abstract

To optimize sharing of organs/tissues from animals humanely sacrificed for (scientific or research) projects approved by the Ministry of Health, by considering that functional - but not only functional - experiments often require using fresh tissues, the 3R Centre is establishing a pilot project involving the University of Genoa and the University of Pisa and their OPBA, enabling sharing fresh tissues through platforms on territorial basis (that might be connected on platform networks) allowing the researcher to use at best valuable biological resource. Implementation of the project would allow establishing protocols for organ/tissue sharing including fresh preparations, therefore meeting more requests than the frozen/fixed tissues. The project by allowing strict collaboration and exchange between researchers would complement the Ministry of Health platform for tissue sharing and would contribute to step forward on the effective reduction of animal use for experimental purpose.

### Introduction

Reducing the number of animals used for scientific purposes is one of the 3Rs that might be effectively pursued. In fact, despite many efforts to reduce the use of lab animal in accordance with the 3R's principle there is still a long way to go until research can be pursued without using animals. The effort to reduce the animal number obviously implies careful planning of experiments together with a careful analysis of the procedures; nevertheless, most of the time only one or two organs are needed while the rest of the animal body is discarded. Also, a great number of animals is used to collect tissues or organs for cell culture or for the development of *in vitro* methods.<sup>1,2</sup>

To make a change towards less animal usage, in the online Sistema Informativo Sperimentazione Animale of the Ministry of Health, a platform - Biobanca IZSLER Condivisione Organi e Tessuti - is available enabling scientists to connect and share organs and tissue of killed animals, in agreement with the European directive 2010/63/EU:<sup>3</sup> "Member States shall facilitate, where appropriate, the establishment of programmes for the sharing of organs and tissues of animals killed." This platform is built on a national basis, and researchers/facilities having access to the platform (registered therefore authorized to submit projects for animal use to the Ministry) can ask and obtain the organs/tissues from the donor researcher/facility; the organs/tissues are in most cases stored frozen or fixed.

To optimize sharing of organs/tissues from animals humanely sacrificed for (scientific or research) projects approved by the Ministry of Health, by considering that functional - but not only functional - experiments often require using fresh tissues, the 3R Centre is establishing a pilot project.

### Materials and Methods

The 3R Centre is promoting a project to share organs/tissues obtained from the animal body that otherwise would be discarded, aimed to the reduction of the total number of animals used for scientific purposes. In particular, the project would enable sharing fresh tissues through platforms on territorial basis (that might be connected on platform networks) allowing the researcher to use at best valuable biological resource.

### Results

The pilot project involves the University of Pisa and the University of Genoa and their OPBA. To establish the protocols for organs/tissues sharing we are focusing on the following issues.

#### Regulation of the query

Request for permission to share organs/tissues should be presented by researchers, together with a CV and a brief description of the project to use the organ/tissue, to the person responsible for the animal facility - to the OPBA - to the designed veterinary of the institution.

#### Approval

Approval of the project by the OPBA;

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contact between the donor facility/ researcher and the recipient; agreement on modes to share and establishment of the calendar.

#### After approval

Keep an OPBA register for all the projects approved and a register for all the effective sharing activities (donor register).

#### Mode for organ/tissue removal

Who is removing it? The personnel/researcher of the donor animal facility? The researcher who will use the removed organ/tissue?

#### Regulation of the access to the animal facility of the researcher to remove organ/tissue

To get the permission the researcher should undergo sanitary surveillance; logistics, feasibility and safety of activities in the animal facility must be assured.

#### Possible storing of organ/tissues/pieces removed

In agreement with the researcher who will use it.

#### Costs

To provide a long-lasting service we should in the future consider the expenses (personnel to prepare/manage the platform; to coordinate/collaborate in organ/tissue removal and preparation; contribution to costs for facility maintenance/animal care/waste delivery?).

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## Conclusions

Although we are now dealing with the above issues, we are confident that implementation of the pilot project would allow establishing protocols for organ/tissue sharing including fresh preparations, therefore meeting more requests than the frozen/fixed tissues. The project by allowing strict collaboration and exchange between researchers would complement the Ministry

of Health platform for tissue sharing and would contribute to step forward on the effective reduction of animal use for experimental purpose

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## References

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3. Directive 2010/63/EU of the European Parliament and of the Council of 22 September 2010 on the protection of animals used for scientific purposes.

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