

Pragmatic approach to using animal tissue

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Using animals to research potentially life-saving treatments for humans is a necessary part of the scientific process, though progress has been made in reducing the number of animals involved. In a new commentary publishing January 12 in the open access journal *PLOS Biology*, scientists in the UK led by Professor Valerie Speirs describe a framework designed to make remaining material derived from animal studies in biomedical research more visible and accessible to the scientific community. The framework, called SEARCH (Sharing Experimental Animal Resources, Coordinating Holdings), encourages scientists to share before considering developing new or additional models, with the ultimate aim to reduce the number of animals used in biomedical research.

The first SEARCH prototype, called SEARCHBreast, has been developed through funding from the National Centre for the Replacement, Refinement & Reduction of Animals in Research (NC3Rs). SEARCHBreast is a database that lists tissues associated with mouse models of [breast cancer](#), and makes them available without charge to scientists. It is run by the University of Leeds, alongside the Barts Cancer Institute, the University of Sheffield and the Cancer Research UK Beatson Institute.

Leeds-based Professor Speirs, project PI, explains that resource's goal to make maximum use of any animal used in research. "We know that several [animals](#) are needed to produce reliable results. But in general only a fraction of each tissue sample is required to perform an experiment. Scientists typically store the rest of the material away which

is often never re-visited," Speirs said.

Rather than duplicating what already exists, scientists can first check the database to see if an existing resource matches their needs. That benefits researchers because the database means tissue can be made available faster and cheaper than would be possible if they had to obtain new animals for each experiment. It also serves the goals of the 3Rs which aims to Reduce, Replace and Refine the use of animals in [biomedical research](#). "By using more of the available tissue, less animals will need to be used in first place," Speirs said.

The team's goal in creating the resource is twofold. "We want to foster a culture of collaboration, and by doing this, we're reducing the number of animals needed for research all round," Professor Speirs said. "This is the first tissue-sharing website of its kind and I feel it's a good contribution to make to science and to animal welfare. We have shown this concept works for breast cancer and our research shows a desire from scientists in other disciplines to adopt SEARCH in their own field".

More information: Morrissey B, Blyth K, Carter P, Chelala C, Jones L, Holen I, et al. (2017) The Sharing Experimental Animal Resources, Coordinating Holdings (SEARCH) Framework: Encouraging Reduction, Replacement, and Refinement in Animal Research. *PLoS Biol* 15(1): e2000719. [DOI: 10.1371/journal.pbio.2000719](https://doi.org/10.1371/journal.pbio.2000719)

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