

On sharing unique reagents

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Last April, Dr Jonathan Phillips and his colleagues, all employees of Hoffmann–La Roche, submitted a letter to the editor to the *Journal of Allergy and Clinical Immunology* entitled “House dust mite models: will they translate clinically as a superior model of asthma?”¹ The crux of this letter was that “mice topically sensitized with house dust mite extract will develop an allergen-induced acute bronchoconstriction that is mediated by mast cells and 5-HT.” As the associate editor assigned this Letter, I suggested that the authors extend their work by using IgE-deficient or FcεRIα-deficient mice to determine whether their model depended on IgE/FcεRI-dependent mast cell activation and indicated that the letter would be sent for external review only if this information were provided. The authors responded by notifying me that they could not comply with this request because “the cost from Harvard for a commercial organization to [obtain] the FcεRI^{−/−} mice from JAX was \$20,000, which we could not afford, especially now as our site...is due to be closed shortly.” The authors also pointed out that their letter reported basic research that was unrelated to the commercial interests of their employer. Subsequent contacts with the relevant office at Harvard confirmed the authors’ information and failed to obtain a reduction in the licensing fee. Consequently, the *Journal* dropped its requirement for the requested experiment. The letter was externally reviewed and eventually accepted without the desired additional information.

This case report raises several questions that do not have easy answers. To what extent should academic institutions, nonprofit research organizations, and for-profit companies be required to provide unique research reagents, including mice, to other

researchers once they have described these reagents in academic journals? Should institutions that provide these reagents provide them free of charge? If the institutions are allowed to charge a fee, should that fee be limited to the incremental cost of providing the reagents, allow recovery of some of the costs associated with the research that led to production of the reagents, or be unlimited? Should it make a difference if that research was supported by public funds versus private investment? Should it matter whether the reagents were requested by researchers at nonprofit institutions versus for-profit companies? Should it matter whether the scientists who requested the reagents intended to use them for basic research or for development of a patentable product? Should journals merely state requirements or also have a responsibility for enforcing them?

Some, but not all, academic journals have established policies that address at least some of these questions. *Nature*, for example, announces the following policy on its Web site: “An inherent principle of publication is that others should be able to replicate and build upon the authors’ published claims. Therefore, a condition of publication in a *Nature* journal is that authors are required to make materials, data and associated protocols promptly available to readers without undue qualifications. Any restrictions on the availability of materials or information must be disclosed to the editors at the time of submission. Any restrictions must also be disclosed in the submitted manuscript, including details of how readers can obtain materials and information. If materials are to be distributed by a for-profit company, this must be stated in the paper.”² *Science*,³ the *Journal of Immunology*,⁴ the *Journal of Experimental Medicine*,⁵ the *Journal of Clinical Investigation*,⁶ *Immunity*,⁷ *Blood*,⁸ *Gastroenterology*,⁹ and *Cancer Research*¹⁰ are among the other prominent journals that require authors to share unique reagents, although the details of how this requirement is stated vary considerably. None of these journals exclude authors who work at for-profit institutions from these requirements. Most journals indicate that authors should be allowed “to charge a modest amount to cover the cost of preparing and shipping the requested material.” At least 1 journal, *Cancer Research*, indicates that authors have no responsibility to comply with requests that “are for intended commercial use.”¹⁰

Some, but not all, of these journals describe sanctions for those who violate their requirements. *Blood* indicates that a corresponding author who refuses to comply will not be allowed to publish articles in *Blood* for the next 3 years.⁸ The *Journal of Clinical Investigation* indicates that “violation could result in retraction of the published article.”⁶ The *Journal of Experimental Medicine* advises researchers to contact it if authors are not forthcoming with their reagents.⁵

Several prominent journals, including the *Journal of Allergy and Clinical Immunology*, *Arthritis & Rheumatism*, the *American Journal of Respiratory and Critical Care Medicine*, *Circulation*, the *Journal of the American Society of Nephrology*, the *New England Journal of Medicine*, and *The Lancet* do not explicitly require authors to share unique reagents with other investigators

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(or, at least, do not prominently display such a requirement on their Web sites).

My own take on these issues stems from a belief that scientific research propels advances that improve the quality and duration of human life. In consequence, I believe that scientific researchers and the organizations for which they work cannot avoid a responsibility to advance scientific research by sharing unique reagents, protocols, and datasets that they have described in print or online, even if such sharing limits their ability to profit financially or corner the market on a particular research approach. It seems reasonable to me to allow authors to recover the incremental costs of providing unique arrangements to other investigators and to charge upfront or through a licensing agreement for potential profits that are made by the use of their reagents for commercial purposes. I hope that academic institutions, such as Harvard, which has been extremely generous in providing unique reagents to academic scientists (including me), will extend this generosity to corporate scientists, such as Phillips and colleagues, who wish to use them for purely academic purposes. I also hope that the editors of scientific and medical journals will act jointly to establish and enforce equitable

requirements for reagent sharing in the same way that they have acted jointly to establish rules for acknowledging conflicts of interest.

REFERENCES

1. Phillips JE, Peng R, Harris P, Burns L, Renteria L, Lundblad LK, et al. House dust mite models: will they translate clinically as a superior model of asthma? *J Allergy Clin Immunol* 2013. ■■■;■■■.
2. Available at: <http://www.nature.com/authors/policies/availability.html>. Accessed February 16, 2013.
3. Available at: http://www.sciencemag.org/site/feature/contribinfo/prep/gen_info.xhtml. Accessed February 16, 2013.
4. Available at: <http://www.jimmunol.org/site/misc/editorialpolicies.xhtml>. Accessed February 16, 2013.
5. Available at: <http://jem.rupress.org/site/misc/ifora.xhtml>. Accessed February 16, 2013.
6. Available at: <http://www.jci.org/kiosk/publish>. Accessed February 16, 2013.
7. Available at: <http://www.cell.com/immunity/authors%20?iframe=true&width=100%&height=100%>. Accessed February 16, 2013.
8. Available at: http://bloodjournal.hematologylibrary.org/site/authors/authorguide.xhtml#data_share. Accessed February 16, 2013.
9. Available at: <http://www.elsevier.com/journals/gastroenterology/0016-5085/guide-for-authors#dist>. Accessed February 16, 2013.
10. Available at: <http://www.aacrjournals.org/site/InstrAuthors/ifora.xhtml#materials>. Accessed February 16, 2013.