

Materials Transfer Agreements – ‘material’ issues

Claudia Riordan

Scientists in different research organizations have traditionally shared materials and reagents, but an increasing awareness of the legal and commercial issues involved – not least the potential value of intellectual property rights arising from any research – has led to a proliferation in the use of Materials Transfer Agreements (MTAs) to put such sharing on a controlled, contractual basis. Many organizations, both commercial and academic, now routinely use their own ‘standard’ MTAs. It is important, however, that such routine use does not lead to complacency. Ultimately, both parties to the agreement will be bound by its terms, and they should therefore ensure that they understand the agreement, are satisfied that it is appropriate for the circumstances, and are able to comply with its requirements.

Understanding the agreement

One fundamental issue, which can be surprisingly complex, is understanding precisely which materials are covered by the agreement. This requires analysis from both legal and scientific perspectives.

Legal analysis

If the materials in question are biological in nature, four categories can potentially be included in an MTA.

1. The transferred materials themselves
2. Unmodified derivatives of the transferred materials. This category would include, for example, the descendants or progeny of transferred materials capable of replication, monoclonal antibodies secreted by a transferred hybridoma cell line, or proteins expressed by transferred DNA.
3. Modified derivatives (or modifications) of the transferred material. These are substances created from the transferred material which contain or incorporate some or all of the transferred material (or its unmodified derivatives). Examples might be recombinant strains derived from cells or organisms received from the provider, or any genetically modified organism containing a gene or genes originating in the transferred material.
4. Substances which are created by the recipient through use of the transferred materials, but which do not fall within categories (2) or (3). An antibody produced as a result of research using a transferred antigen would be such a substance.

It is helpful for the recipient to have these categories in mind when reviewing a provider’s MTA, although the precise terminology will vary. Some agreements, ignore the fourth class of substances altogether, and some amalgamate the second and third into a single class. The MTA will limit what the recipient can do with materials in either the first category alone, or other categories in addition. The more categories whose use is restricted, the

tighter the control that the provider is seeking to retain, and the less likely it is that the recipient will be able to exploit the research to its own commercial advantage.

Once the recipient understands how the agreement categorizes the materials, he can then go on to look at (i) who will own each category, (ii) what restrictions are put on the use of those owned by the provider, and (iii) in relation to each category, how any intellectual property rights arising from the research will be handled. Restrictions on the use of materials might include limitations on the area and type of permitted research, on their transfer to other research groups or on their disposal when the agreement terminates. As regards intellectual property rights, the agreement might restrict publication of research results, require all intellectual property rights arising from the research to be assigned to the provider, or give the provider the right to be granted a royalty-free licence to use this intellectual property.

Scientific analysis

The legal analysis clarifies in theoretical terms what restrictions the MTA will impose on the recipient. But it is important to think about the actual planned research project and the specific nature of the products that are likely to result from it. Is it clear from the definition(s) in the proposed agreement which category each of these falls into, and therefore whether (and how) each is affected by the agreement?

The answer may not always be straightforward. Suppose, for example, a recipient organization receives an adult stem cell line from the provider and carries out research resulting in a stable, differentiated cell line. The genetic content of the new cell line is unchanged, so it could be viewed as direct progeny of the original cells, i.e. an unmodified derivative. Alternatively, it could be argued that because the new cell line exhibits properties different from those of the transferred materials, it must be a modified derivative. If modified derivatives and unmodified derivatives are treated differently in the agreement, it would be essential to resolve this uncertainty.

If it transpires that the proposed agreement does not definitively categorize all the products that could result from the research, it is advisable to modify the agreement as appropriate, perhaps by referring to specific examples. If a dispute should arise which eventually comes to court, the judge is likely to have serious difficulty in interpreting scientific definitions which the scientists themselves find ambiguous.

Assessing the implications of entering into the agreement

A proper legal and scientific analysis will clarify precisely how the proposed research will be affected by the MTA, and which group of scientists will be restricted by its terms. Armed with that knowledge, the recipient organization can explore the legal, commercial and practical

implications of the MTA and take an informed decision as to whether to enter into it on the proposed terms.

Legal questions to consider include:

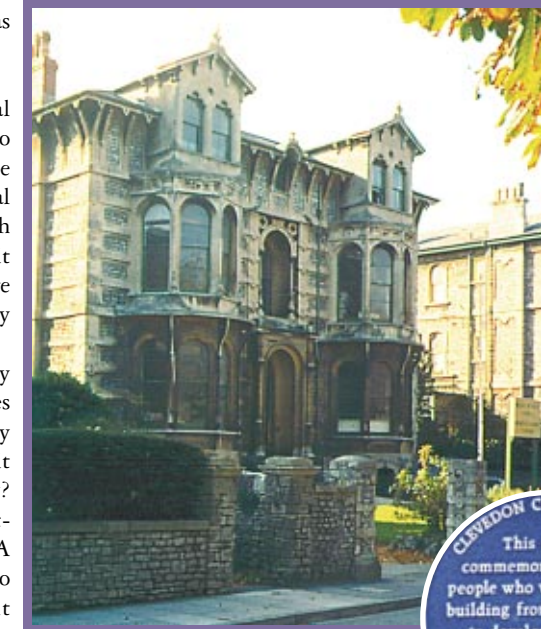
- Are there any pre-existing or proposed contractual arrangements which restrict a recipient’s freedom to comply with the terms of the MTA? There might be existing MTAs relating to other materials essential for the research, or agreements covering research grants, fellowships, funding, etc. In the latter case it is important to identify all the individuals who are likely to be involved in the project, and to check any independent funding agreements.
- If the provider is to receive intellectual property rights in inventions arising from the research, does the recipient organization have the necessary agreements in place with all research staff to enable it to assign any intellectual property rights in this way?
- Commercial implications include potential restrictions on future revenue. Not only might the MTA limit the commercial exploitation of the research to which it relates, but also the restrictions which it imposes could jeopardize the chances of receiving future funding covering projects in which the relevant materials will be used.
- Practical considerations require an assessment of whether and how the restrictions imposed by the MTA can be implemented, e.g.
 - To comply with the terms of the agreement, all staff involved in the research project will need to be aware of which substances are subject to the MTA. Are there systems in place which can clearly identify these products and control their location?
 - If the project involves collaboration between different groups or teams, how will any appropriate permission requirements be dealt with in relation to the transfer of materials to third parties?

No doubt it is frustrating for the individual research scientist, keen to obtain materials essential to his research, to be forced to participate in this sort of analysis before he can proceed. However, the identification of potential problem issues at an early stage is essential to minimize the risk of future costly disputes.

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A strange episode in the history of antibiotics

Michael Carlile



LEFT: The MRC Antibiotics Research Station photographed in 1961 by Cliff Hale who worked there. COURTESY GEOFF HALE

INSET: The blue plaque now on the building. COURTESY ALAN VIVIAN

Clevedon is a small seaside resort on the Bristol Channel, a few miles upstream from Weston-Super-Mare. It was the site of the Medical Research Council’s Antibiotics Research Station from 1949 to 1961. I visited it in the late 1950s at the invitation of Dr Codner, who told me about its origin.

During the Second World War, the therapeutic value of penicillin was demonstrated by a group at Oxford, an achievement for which two members of the group, Howard Florey and Ernst Chain, shared the Nobel Prize with the original discoverer, Alexander Fleming. For several years there was a desperate shortage of penicillin, so the Royal Navy thought that it should get in on the act and produce some for itself. The Navy acquired a large old house at Clevedon and got to work. At that time the antibiotic was produced by the fungus *Penicillium notatum* in surface culture in any handy vessels – bedpans for example. Such vessels could not be moved after fungal growth had begun, otherwise the necessary surface mat would be liable to sink. So storing vessels for easy access without excessive disturbance was a problem. The navy had its unique solution. A long, narrow and very high room, perhaps once a corridor, had shelving installed to the ceiling along one wall. Culture vessels with sterile medium were placed on the shelves and inoculated with *Penicillium*. The young ladies that accomplished this task were raised to the necessary level in a bosun’s chair, of dimensions adequate to accommodate the rear of an elephant, and suspended from a steel beam that could have supported a battleship! On my visit I saw some relics of the Royal Navy’s culture facility.

After the war the building was taken over by the MRC for antibiotic research, with a director who was not a biochemist or microbiologist, but a statistician. I was told by Ernst Chain that this strange appointment was due to the influence of Howard Florey, who was convinced that fungi (Von Haller’s ‘mutable and treacherous tribe’) were so

variable in their behaviour that a statistician was needed for planning and interpreting experiments. The MRC decided to close the research station in 1961. This of course occurred almost simultaneously with the isolation by station staff of a strain of the fungus *Cephalosporium* giving high yields of the antibiotic cephalosporin, the best-selling of all antibiotics.

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Since receiving this article much interesting information has come to light about the history of the research station and some of its staff. This will be published in a future issue of Microbiology Today.

Any further recollections are welcome. Please email Janet Hurst (j.hurst@sgm.ac.uk).

Further reading

This is an abridged version of an article published on the Mills & Reeve website at <http://www.mills-reeve.com/dispimg.asp?id=1465>

A short booklet published in 1997 by the American Council on Governmental Relations (available at <http://www.research.colostate.edu/mta/>) contains helpful explanations of the key issues arising from MTAs, but readers should be aware that this booklet is directed at researchers in US academic institutions and therefore not all the information it contains is applicable in the UK.