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Chris Kilby
Ministry of Economic Development
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Dear Mr Kilby

Discussion document – Bioprospecting : Harnessing Benefits for New Zealand

Thank you for sending us the above discussion document and inviting us to make a submission.

The essence of the document is the suggestion that New Zealand (through its government) should establish a national database of knowledge relating to the native flora (and fauna) and guidelines for ownership of intellectual property (IP) arising from that knowledge.

As I understand it, the native flora is the source of material for most of the research work carried out in the NPG currently and this has been the case since government funded science was established in NZ in 1865. The science of natural products has an enviable record, being one of the original branches of both medicine and chemistry and from which the entire science of organic chemistry has evolved. In New Zealand, in both the universities and the former Colonial Laboratory, the Dominion Laboratory and the Chemistry Division of the Department of Scientific and Industrial Research (DSIR), research work on natural products has been a major activity for different reasons and as a result of this activity, a body of published work has accumulated, much of which is recorded in Professor Cambie's series of papers in the Journal of the Royal Society of NZ entitled "A Phytochemical Register" and also described in his books "New Zealand Medicinal Plants" and "New Zealand's Economic Plants".

To ensure this knowledge is preserved and updated (specifically, Cambie's Phytochemical Register), it would seem sensible and reasonable to house it in a central location with the appropriate level of government financial support, thus contributing to traditional aspirations and potential commercial exploitation to the benefit of New Zealand science and business. This Register could be linked to the databases currently available on the website of Landcare Research (LCR), which publishes both an electronic and book version of the NZ flora which is a database and official scientific classification and description of the entire flora. In addition the LCR website has another database entitled "People Plants Infobase," which is a "web resource of information on the traditional uses of NZ native plants by Maori." This is a simplified extension of The Flora and includes information on plant properties and uses, gathered from published material, rather than directly from the Maori people.

The search for natural products, which can benefit mankind, is an activity that has taken place from the beginning of history and is the basis of much scientific research world-wide. It is essential that access to and scientific research on the NZ flora can continue, although that could be restricted to NZ institutions and that the results of such work should be published in the open science literature, so that knowledge of the flora can be advanced.


Some 85% of the New Zealand native flora is endemic, ie does not grow anywhere else in the world. As a result of this phenomenon, there is a good opportunity for potential development of natural products from our flora as cosmeceuticals, nutraceuticals and pharmaceuticals. To emphasize this commercial potential, as stated in the discussion document, 38% of prescription drugs sold in the USA, are derived from natural sources. Much of the research work which is currently being carried out in the Natural Products Group at IRL involves the development of socially and economically useful natural products from NZ flora, usually in collaboration with NZ companies. To obtain a patent for use of a particular natural product, a user must consider the existence of "prior art" and ownership of intellectual property associated with that product. Currently, "prior art" of the use of New Zealand native plants or their derived natural products exists in a small number of scientific publications but not in any "official" register, such as a national pharmacopoeia. Consequently, at present, any person or company can patent the use of plants or extracts from them, for commerce. Therefore, it is essential that the ownership of any IP arising from the development of these products is clarified so that commercial progress can be made and the country can benefit economically from this field of work.

In summary:

1. Several databases currently exist and these should be updated, combined, centralized and managed.
2. Access to the flora should continue to be available to NZ scientists and results of research work on the flora should continue to be published in the open literature;
3. Ownership of IP developed for extracts or products from New Zealand plants needs to be clarified;
4. Commercial development and sale of extracts or products from New Zealand plants could be restricted to New Zealand based companies.

Once again, thank you for the opportunity to make this submission and I look forward to hearing from you shortly.

Yours sincerely



Shaun Coffey
Chief Executive