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Marine sponge shows tumour-stunting promise

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The research, which has been published in the highly-regarded journal *Molecular Cancer Therapeutics*, suggests that peloruside A—a substance produced by the marine sponge Mycale henscheli, found mostly in Pelorus Sound—has promising tumour-inhibiting properties when compared to other plant and bacterial-based agents currently used in chemotherapy.

One preclinical trial on lung cancer cells showed tumour growth inhibition greater than 90 per cent with peloruside A, compared with results of 53 per cent and 19 per cent for two current anti-cancer drugs.

A similar preclinical trial on cells of a different type of lung cancer also produced encouraging results, with inhibitions of tumour growth ranging between 50 to 74 per cent, compared to 44 and 50 per cent with the alternatives.

Tests were also conducted on breast cancer cells, with the results suggesting better toleration of peloruside A than the clinically used drugs.

"Although additional research is required, the preclinical results certainly suggest that peloruside A is highly effective in preventing the growth of lung and breast tumours," says Professor Miller.

"In some cases, there was even a decrease in tumour volume."

The research also indicates that peloruside A may provide an answer to the growing problem of the acquired resistance of some tumours to current medications.

"This is encouraging, because it means peloruside A could increase the range of options available for long-term treatments; particularly if there are fewer side effects with peloruside A compared with drugs currently used to treat cancer," says Professor Miller.

Professor Miller believes the results give strong support for further trials. However, advancing clinical studies is challenged due, in part, to a limited supply of the marine sponge.

Efforts are underway to provide enough material, either from

aquaculture or large-scale chemical synthesis, to commence human trials.

Provided by Victoria University