

NZ shellfish makes worldwide waves

The Lyprinol story



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In 1987, a little-known rock band was trying to get airplay on New Zealand radio stations for a new single they'd written. At the time, I worked for the number one rated music radio station in New Zealand, Triple M 89FM in Auckland. Not even here, at the apex of new music, could the band get a leg in the door against the likes of Huey Lewis or Icehouse.

Yet, the New Zealand band persisted and one Sunday morning half the country was stunned to hear American Top-40 music icon Casey Kasem when he revealed the #3 selling song on the US charts for that week: *Don't Dream It's Over* by a "little New Zealand band named Crowded House".

Come Monday morning, radio programme directors all over New Zealand were scrambling to dust off the demo 45's they'd been sent by the record company weeks earlier, and it was a race to see who could get behind New Zealand's Crowded House the

fastest. It took recognition of kiwi achievement by the Americans, before local audiences paid any attention to Crowded House.

As I flick through the literature on the New Zealand health product Lyprinol, I'm reminded of how difficult it is for New Zealand innovations to be truly recognised in their own country. Lyprinol is the trademark name of a registered pharmaceutical extract, PCSO-524™, derived from the common New Zealand green-lipped mussel. Like most pharmaceuticals based on natural products, you'd need to eat vast quantities of mussels to get the concentrations of the extract that pharmacists manage to produce, and of course the advantage of science is they've been able to isolate the key ingredient.

So what does it do? Green-lipped mussels have been hitting the health headlines since the 1980s, but the early difficulty lay



in translating research lab results into a quality-controlled manufacturing process. That didn't really happen until the 1990s.

Where Lyprinol appears to have come into its own is as a natural anti-inflammatory with properties that ease joint pain. It's a big seller internationally, available in 31 countries and registered as an official arthritis supplement in six. More than 200,000 packets of Lyprinol now fly off the shelves each month in the US alone – under the brand-name OmegaXL – and even actress Courteney Cox has stated publicly she uses the product, but here in New Zealand our home-grown Lyprinol isn't really flying above the radar yet.

It probably should be. A just published study by researchers at the University of Wroclav medical school, in the medical journal *Reumatologia* (volume 49, 4: 244-252), reports on a controlled double-blind trial of osteoarthritis sufferers, where one group received fish oil as a treatment, and the other received Lyprinol. None of the patients – and not even their doctors – knew which group was receiving which supplement. But the results were astounding.

“The patients from Group A treated with *Perna canaliculus* oil [Lyprinol] showed a statistically significant reduc-

tion of pain, improved levels of mobility and activity and 100% tolerance, with no noted side effects. In comparison, patients from Group B treated with fish oil did not show a notable reduction in pain; there was no significant improvement of mobility or activity and 64% tolerance.

“The researchers did not expect to observe such a major difference between Group A and Group B.”

And just how significant was the difference?

The pain reduction, as measured by participants and their doctors in the randomised double-blind trial, was in the region of 50% for those using Lyprinol compared to those on fish oil. The back-up evidence for that is that only one third of the Lyprinol group asked for extra pain relief, compared to two thirds of the fish oil trial group.

In their study conclusion, the scientists wrote:

“Stabilised *Perna canaliculus* oil is the first known natural inhibitor of LOX, the activity of which has been referenced in numerous clinical trials, with no adverse effects.

“The patients from Group A judged the efficacy of PCSO-524™ positively with regard to pain relief within the first four weeks and considered it to be beneficial for their quality of life. Group A subjects continued to measure further reductions in pain during the 12-week period of the study. The benefits of fish oil were not evident during this 12-week trial.

“Given the potential side effects, large dosages needed and long duration required for fish oil, practitioners could consider stabilised *Perna canaliculus* oil as a safer and faster acting first-line medication for patients who suffer from osteoarthritis.”

I did say Lyprinol wasn't hailed in its home country, but that's not entirely true. A recent study by researchers at the Wellington School of Medicine and Health Sciences ran Lyprinol through some rat testing and found, “The oil was shown to suppress superoxide production by activated neutrophils by 32% even when diluted 4000 fold. When administered orally to rats it significantly inhibited the development of rheumatoid arthritis even at doses as low as 125 mg

per kg of food. Conclusions: This oil has a potent effect on the production of superoxide by activated neutrophils and also is a strong inhibitor of rheumatoid arthritis in rats, probably through its anti-inflammatory activity.”

In fact, the rat trials showed Lyprinol was “virtually identical” in its effect to the commercial arthritis drug Meloxicam.

And as we all know, a healthy rat is a happy rat.

The key point, however, is that Lyprinol's efficacy does not come at the expense of nasty side effects. The human trials described above found no adverse reactions for the Lyprinol group, but some significant side effects for those taking fish oil. And of course, synthetic pharmaceutical medicines have their own side effects as well.

“It is well known that fish oil should be used under medical supervision by people who bruise easily, have a bleeding disorder, or take blood-thinning medications,” noted the Polish study. “Large doses of omega-3 fatty acids may increase the risk of bleeding.

“It is also well known that fish oil can cause gas, bloating, belching and diarrhoea.

“Patients often use well-known analgesics such as paracetamol or ibuprofen for treating pain related to osteoarthritis. In the long term, analgesics may cause pain in the gastro-intestinal system and also affect the kidneys adversely.

“PCSO-524™ has been shown to be an effective complementary or alternative active ingredient for the treatment of osteoarthritis.

“Large doses of fish oil are known to act as platelet aggregation inhibitors. If a smaller dose of *Perna canaliculus* oil can achieve the same anti-inflammatory benefits as doses of standardised fish oil, this would provide practitioners with a safer first-line alternative without the risk of haemorrhage. It may also enable reduced usage of analgesics.”

Studies have also indicated lyprinol may be beneficial as a supplement for asthma sufferers, again with the advantage of no adverse side effects. New Zealand clinical trials with juvenile asthma sufferers are looking at these benefits in more detail.