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Sports drink is novel pay-off for UCT sport scientist

University of Cape Town Associate Professor Andrew Bosch's years of toil in a lab have culminated in the production of a new protein-based, muscle-recovery product called PeptoSport. Manufactured by DSM Nutritional Products South Africa as part of its Pepto range, the drink comes in powder form and is mixed with water.

In his work with athletes at the UCT Medical Research Council Research Unit for Exercise Science and Sports Medicine (ESSM), Professor Bosch has spent years delving into the physiology and biochemistry that underpin the roles of carbohydrates and protein in sports performance.

His labour has now been applied to PeptoSport, specifically developed for a research project investigating muscle recovery from hard training. As well as striking a careful balance between the respective amounts of carbs and protein in the drink, Bosch included protein hydrolysate in his formulation.

Protein hydrolysate – or PeptoPro, as the DSM-trademarked ingredient is known – is a protein that has been broken down into strings of amino acids in a process known as hydrolysis. These bonded amino acids are also known as peptides.

Studies have shown that protein hydrolysates, unlike intact proteins normally found in food, require no digestion and so are absorbed directly into the blood. This is one of the reasons they may outperform more complex proteins in enhancing the muscle recovery process, explains Bosch.

In early 2009 Bosch and his team ran a study at a training camp in Stellenbosch with the Springbok Rugby Sevens, who volunteered their services and bodies to the ESSM. Using muscle soreness and fatigue as a marker for recovery, Bosch was able to show that protein hydrolysates did improve post-training recovery, particularly in the quadriceps and calf muscles.

Following his good results with the Springbok Sevens, DSM was keen to join forces with UCT to produce and market the drink. The two groups recently signed a licensing agreement.

UCT's Research Contracts and IP Services (RCIPS) licensed the formulation developed by Bosch to DSM on an exclusive basis for commercial use. PeptoSport's market success will earn royalty revenue for UCT, reward the inventor and fund further research at ESSM, says Dr Andrew Bailey, intellectual property manager at RCIPS.

PeptoSport has been registered with Informed Sport, a screening programme of the UK-based HFL Sport Science laboratories that checks for the presence of banned substances in sports supplements.

For Bosch, the drink is an out-of-the-ordinary return on his work. "Most of the time," the research ends up as a paper in a journal," he says. "So actually seeing a product on a shelf is kind of novel."

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