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FLEXISEQ Sport demonstrates superiority to a prescription pain killer for the treatment of muscle soreness

Pro Bono Bio plc welcomes today the publication of an independent study into the effects of FLEXISEQ Sport versus a prescription pain killer on muscle soreness and recovery after exercise.

Published in the *Journal of Sports Sciences*¹, the investigation shows that FLEXISEQ Sport reduces muscle soreness faster than a prescription oral painkiller (ketoprofen 100mg, twice daily), avoiding the known problem of NSAID-delayed recovery.

During the study, healthy volunteers aged 18-55 repeatedly descended stairs for 40 minutes from an altitude of up to 400m to induce muscle soreness 12 hours later. Participants with measurable muscle soreness in the calves were then randomised to a number of treatment arms including oral ketoprofen 100mg and drug-free FLEXISEQ Sport, both received twice daily for 7 days after the onset of muscle soreness.

Over the 7 days after exercise, participants taking oral ketoprofen experienced over 20% more pain than those using FLEXISEQ Sport; in addition, those treated with FLEXISEQ Sport found their muscle soreness was completely cleared on average 12 hours faster than those using the oral drug.

Study author, Professor Egbert J. Seidel, Centre for Physical and Rehabilitation Medicine, Weimar said, "This study reinforces other published findings that the use of NSAIDs to treat muscle soreness actually delays recovery rather than improves it. It is a concern in sport that athletes often take large amounts of painkillers prior to, during and after events to reduce muscle soreness and these findings suggest that FLEXISEQ Sport could serve as a superior alternative."

Additional findings showed that a greater number of patients using FLEXISEQ Sport (90%) had a complete absence of pain by the end of the study than those treated with oral ketoprofen 100mg (75%).

Nick Baverstock, Director of Sports Marketing at Pro Bono Bio said, "The findings of this study reflect the great feedback we have received from professional sport. FLEXISEQ Sport consistently demonstrates effectiveness in an array of recovery-based applications for a wide-variety of physically demanding disciplines and its superiority over NSAIDs for muscle recovery is an additional benefit to the use of the product. Once again, FLEXISEQ Sport has been proven to be the superior alternative to drugs which are too often used in sport with little concern for the side effects."

The study findings will be of interest to sportsmen and women as they suggest that FLEXISEQ Sport's biolubricating mode of action may have a dual function, to assist the joints in resisting the stress and strain of physical exertion, but also to aid muscle recovery in a similar way to muscle-bound hyaluronic acid which is thought to ensure the smooth sliding motion between fascia and muscle bundles². This physical mode of action is preferable to the side effects associated with the inappropriate use of NSAIDs that has become commonplace in many sports. FLEXISEQ Sport now provides a safer and more effective way of dealing with muscle soreness.

¹ <http://www.ncbi.nlm.nih.gov/pubmed/25893979>

² STECCO, Carla et al. Analysis of the presence of the hyaluronic acid inside the deep fasciae and in the muscles. *Italian Journal of Anatomy and Embryology*, [S.l.], p. 179, Nov. 2011. ISSN 2038-5129. Available at: <<http://www.fupress.net/index.php/ijae/article/view/10258>>. Date accessed: 10 Apr. 2015. doi:10.13128/IJAE-10258

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About FLEXISEQ[®] Sport:

FLEXISEQ Sport has been developed in collaboration with professional sportspeople in order to meet the demands of athletes and other active people suffering or at risk from, joint pain & stiffness, or joint damage. Every batch of FLEXISEQ Sport has been screened and cleared for substances that are banned by the World Anti-Doping Agency (WADA).

About Pro Bono Bio:

Pro Bono Bio plc is the world's leading nanotechnology company offering health and lifestyle products, headquartered in London with operations in Europe, Africa and Asia and due to launch in CIS and North America.

Notes to Editors:

NSAIDs and their detrimental effects of sports recovery

NSAIDs are an extremely common treatment choice for managing musculoskeletal pain and injury. However, studies have questioned their value in the healing process of bone, muscle, tendon, and ligament injuries due to the drug class's indiscriminate approach to knocking out inflammatory processes, specifically the vital healing functions it promotes. In addition to the loss of healing function the body uses to recover from traumas, NSAIDs are well known to carry risk of potentially serious adverse effects.

It is a recognised problem in sport that athletes take regular and high doses of NSAIDs in order to stay competitive. While this puts them at risk from adverse effects, the practice can retard their recovery between events and also cause the athlete to induce more trauma due to the absence of a pain signal warning them that the body is taking on extra damage.

There is an unmet need in sport for a condition-targeting, pain treatment that will not cause detriment to the athlete but instead aids their recovery.

FLEXISEQ Sport: The better alternative to NSAIDs

FLEXISEQ Sport uses a physical mode of action to supplement the lubricating functions that the body employs to ensure smooth unrestricted movement in the joints and between muscle fascia and muscle bundles.

Through regular use of FLEXISEQ Sport, athletes can treat any wear and tear and directly address pain within joints as well as take steps to avoid any that may occur through the stresses and strains physical activity can place on joints.

Being drug-free means the product will not cause side effects, retard vital recovery processes employed by the body or cause athletes to take on more than their bodies can withstand.

Also of interest to athletes and anyone else subject to anti-doping regulations, FLEXISEQ Sport comes batch tested to meet the standards expected by anti-doping authorities such as WADA.