

Under The Microscope

Taking a purely scientific look at the best products in the world of sports supplements

by CHRIS ACETO

➤ **We examine the critical active ingredients in various sports supplements. We award high marks to those with existing supportive data, real-world results and innovation in formulation. Here we put ALLMAX ISOFLEX under the microscope.**



WHEY PROTEIN ISOLATE is a fast digesting and easy to absorb source of whey protein. Whey quickly delivers building blocks known as amino acids to muscles for growth and repair. Whey protein isolates are also rich in branched chain amino acids (BCAAs), which are instrumental in muscle growth.

GRADE: ★★★★★

REASON: Quick delivery. Isolates release muscle-building amino acids faster than any other source of protein.

HYDROLYSED WHEY PROTEIN ISOLATE is the other super-fast-digesting whey protein available. Whey proteins are superior because they provide branched chain amino acids (BCAAs) and an abundance of the antioxidant glutathione, which can strengthen the immune system. There are numerous studies that show adding whey protein to a weight training programme supports measurable gains in muscle mass. Some studies also show a gain in mass along with a simultaneous drop in bodyfat. 'Hydrolysed whey' is whey protein that has been enzymatically treated so the protein is digested even faster than all other forms of whey. Fast-digesting amino acids are especially important before and after training. Before training, fast-digesting aminos can block tissue breakdown and when used after training

fast-digesting amino acids immediately restart the muscle-building process. Using hydrolysed whey protein isolate throughout the day is an effective way to keep special reserves of amino acids called 'amino acid pools' saturated, which, in turn, helps support tissue repair.

GRADE: ★★★★★

REASON: Fast-digesting amino acids always help tissue repair and by hydrolysing protein, it allows protein to more efficiently get into the blood stream to support muscle growth.

COLOSTRUM is the first milk secreted by mammals after giving birth and is particularly high in immune-boosting abilities. A stronger immune system is correlated with quicker muscle recovery. Colostrum also contains insulin-like growth factors (IGF), which impact muscle fibres. It is believed greater IGF levels impact muscle growth.

GRADE: ★★★★★

REASON: On paper this reads like a five-star ingredient, but more research and reports from bodybuilders will show if it really lives up to that rating

L-ARGININE is an amino acid that increases nitric oxide (NO) release, which opens up blood vessels allowing for greater blood flow and nutrient delivery to muscles. Arginine has also been shown to

lower bodyfat levels when combined with a moderately lower calorie diet. Arginine increases growth hormone (GH), which can block muscle breakdown associated with training. It also has the ability, especially when added to whey proteins, to increase insulin secretion. Insulin is a hormone that tends to reverse or interrupt the muscle fibre breakdown that is associated with hard training.

GRADE: ★★★★★

REASON: Research has shown numerous times L-arginine's ability to boost nitric oxide levels and boost GH release.

FOLIC ACID is a B vitamin that regulates amino acid metabolism in the body. A lack of folic acid leads to anaemia, a lack of energy and possibly poor growth.

GRADE: ★★★★★

REASON: Often very hard to get adequate amounts from the daily diet unless generous amounts of vegetables are consumed.

NAC (N-ACETYL-L-CYSTEINE) is a metabolite of the amino acid cysteine and produces glutathione in the body. Glutathione is a very strong antioxidant, which directly fights free radicals that are produced during training. Left unchecked, free radicals can punch microscopic holes in muscle tissue decreasing muscle recovery as well as interfering with a muscle's ability to uptake and utilise glucose from carbohydrates. Interfering with glucose uptake decreases growth and recovery, as well as leading to gains in bodyfat. Compromised glucose uptake also plays a secondary role in amino acid metabolism. In theory, protein synthesis can be compromised when excess free radicals production impacts muscle tissue.

GRADE: ★★★★★

REASON: In post-training nutrition, limiting free radical production can lead to better growth and recovery.

GLUTAMINE PEPTIDES are a superior source of the amino acid glutamine. Glutamine lowers ammonia levels, the by-product of training that can interfere with muscle growth, and can also block the uptake of cortisol by muscle tissue. Cortisol is a muscle-wasting hormone that is released during training that causes muscle breakdown. Glutamine, however, can maintain adequate levels of branched chain amino acids (BCAAs), which are extremely important in muscle recovery and growth. Studies have also shown it can help the body store glucose as muscle glycogen which can enhance training intensity and support recovery. Peptide bonded glutamine is two singular glutamine molecules bonded or attracted together by a special connection called a peptide bond. This bonding makes it more bio-available for the body and is superior to regular glutamine.

GRADE: ★★★★★

REASON: The best choice of glutamine for tissue repair and muscle support.

ALPHA LIPOIC ACID (ALA) helps move glucose from carbohydrates into muscle cells where it is stored as muscle glycogen;

and greater muscle glycogen stores are associated with greater training endurance. ALA also supports the production of glutathione, which exerts a very strong immune-boosting effect, not to mention being able to block insulin's effect on fat cells. Generally insulin has fat-storing, as well as muscle-building, properties but ALA appears to limit the fat-storing ability. Finally, ALA can help testosterone bind and lock-up with testosterone receptors on muscles.

GRADE: ★★★★★

REASON: Exerts several positive effects on muscle growth and fat loss.

D-PINITOL helps the body improve the use of the hormone insulin. Pinitol seems to help insulin exert a stronger 'driving' effect; insulin drives or pushes both glucose from carbohydrates and amino acids from protein into muscle tissue for growth and repair. Accentuating that 'push' could result in better muscle recovery and improved growth, provided the user is consuming sufficient high quality protein.

GRADE: ★★★★★

REASON: Insulin support is helpful in preventing muscle breakdown and increasing protein syntheses (muscle building).

4-HYDROXYISOLEUCINE is derived from fenugreek. It has the ability to keep blood sugar (the total amount of digested carbohydrates floating in the blood stream) stable. Stable blood sugar levels are correlated with better recovery and less bodyfat. Hydroxyisoleucine has also been shown to increase amino acid and glucose uptake by muscles, which may support a leaner and more muscular physique.

GRADE: ★★★★★

REASON: Glucose stabiliser and the ability to possibly transport both glucose and amino acids make it an effective ingredient. M&F

THE RATINGS

★★★★★ Outstanding scientific research on humans available

★★★★ Solid research available; anecdotally effective

★★★ Not much human research available but premise is sound