

What is it?

NEURIAR® is a Globally Patented Pure Caviar Protein Extract. The caviar protein powders are available in both a soluble NEURIAR DAWN® and insoluble NEURIAR DUSK® formats. Both protein powders contain the full spectrum of essential natural amino acids and short peptides required to support human bodily functions. These vital functions include but are not limited to the speedy repair of muscle mass, the regeneration of all vital proteins required for correct body function and the defence of the extracellular matrix.

Taken as an oral food supplement in capsule format, NEURIAR® is a unique nutritional health supplement derived solely from the placenta of the Sturgeon 'Acipenser' fish species traditionally known for their caviar production.



Exmoor Caviar NEURIAR DUSK® and NEURIAR DAWN® by Caviar Biotec®

How is it made?

NEURIAR® is manufactured solely from the Sturgeon 'Acipenser' placenta, which is a byproduct of traditional Sturgeon Caviar production. The availability of this product has only been made available since sturgeon farming for caviar became a regulated and controlled industry.

Through a globally patented 4 stage extraction process, the essential amino acids are meticulously separated from the Pure Caviar Oil, in turn they are dried into either soluble NEURIAR DAWN® and insoluble NEURIAR DUSK®. The powders are then encapsulated into a food supplement format for ease of oral consumption.



What does it do?

As well as an impressive range of vitamins, minerals and trace elements, both NEURIAR® products naturally contains the full spectrum of essential amino acids and short peptides vital for the functioning of the human body.

Many of the amino acids found in NEURIAR® are in 'short chain 'peptide' form which are the foundations and building blocks for all proteins within our bodies.

Each new protein formed in the body requires all 20 essential amino acids to be present in the correct values. Whilst the human body can generate some Amino Acids, it is not able to generate the 'Essential Amino Acids' which can only be achieved through diet or health supplementations.

The digestion of orally ingested whole proteins, which break down into these essential amino acids, takes time and energy to fully break down orally consumed whole proteins. In later life and with certain gut-based illnesses, especially low level chronic inflammatory diseases of the GI tract, digestive capabilities can become less effective in breaking down the proteins.

Due to its patented enzymatic hydrolysis process, NEURIAR DAWN® does not require human gut digestion and therefore provides all the required essential amino acids in a digestible format facilitating immediate direct absorption through the blood gut barrier. This in turn allows for the amino acids to enter the blood stream with minimal delay speeding up protein regeneration.

Therefore, alongside a healthy and balanced diet, NEURIAR® assists the body in maintaining vital functions and provides the foundation and critical component structure of all proteins contained within the human body in an effective manner.





What are the benefits and applications?

Who would benefit from supplementation with NEURIAR®?

- General wellness for people of all ages, in particular those over 50
- Individuals suffering from muscle loss (sarcopenia) leading to reduced strength
- Sports enthusiasts and athletes seeking increased strength, endurance and rapid muscle regeneration

General wellness

A healthy lifestyle starts with nutrition. “We are what we eat” is true in the sense that all nutrients to sustain and regenerate the human body come from our diet. However, in certain situations such as stress, fatigue, exhaustion and illness the digestive system may not respond at all or respond quickly enough, or there may be an inadequate amount of nutrients to provide for the required needs of the body. In these situations, a boost of amino acids and short peptides which are readily absorbed to the blood stream, can compensate for the lack of proper nutrition and normal digestion. Intake of free amino acids can also boost the immune system as documented in several studies.

Physical & Mental Stress

During stress, the ability to digest protein is also reduced. Digestion of proteins to amino acids requires a well-functioning digestive system. However, the digestive capability of humans becomes limited in many ways and in many situations.

Some of the key situations that lead to limited digestive capability which NEURIAR® can benefit are:

- Strenuous physical activity, stress, trauma, exhaustion
- Surgery, use of antibiotics, chemotherapy and other medication
- Illness such as HIV, Crohn’s disease, ulcerative colitis, inflammatory bowel disease
- Reduced digestive function related to old age, malnutrition

” *In these situations a boost of amino acids and short peptides, which are readily absorbed to the blood stream, can compensate for the lack of proper nutrition and normal digestion.*

Peptides with biological activities, released during gastrointestinal digestion regulation and modulation, suggesting their potential use as nutraceuticals and functional food ingredients for health promotion and disease risk reduction.

Many studies have reported that peptides from various food sources possess bioactivities, including antihypertensive, antioxidant, anticancer, antimicrobial, and opioid activities as well as immunomodulatory and cholesterol-lowering effects.

<http://www.ncbi.nlm.nih.gov/pubmed/18727554>

What are the benefits and applications?

The most common physiological uses of amino acids include building muscles, improving heart and circulatory problems, improving chronic fatigue syndrome, depression, anxiety, eating disorders, increasing memory and enhancing the immune system.

- NEURIAR® is taken as a daily as a health Food supplement, to aid protein requirements for muscle regeneration, skin healing from conditions such as eczema, skin reparation from wounds as well as strengthening of hair follicles.
- NEURIAR® has a high degree of free amino acids which individually have important functions. In particular, NEURIAR® will give a boost to mood and brain function which can give a renewed feeling of wellness and alertness.
- NEURIAR® contains more than 120 short peptides, and two peptides identified have known antioxidative and ACE inhibition activity; to lower blood pressure and help people with diabetes.
- NEURIAR® can be used as a component of a dieting formula as it provides both satiety and lean body mass.

Sports

NEURIAR® is an all-natural, full spectrum amino acid complex specifically tailored for optimal nutrient timing and metabolic recovery – a product geared for athletes and active sports enthusiasts who require an efficient source of amino acids to support muscle anabolism and metabolic recovery.

Physical endurance requires amino acids and short peptides since strenuous exercise significantly depletes amino acids in the body. Physical stress causes damage to muscle tissue. Replenishing amino acids and short peptides extends high levels of physical intensity. Nutrient timing and metabolic recovery are two important concepts in sports nutrition that have become a focus for most athletes. NEURIAR® is uniquely positioned to offer significant benefit for athletes who require an efficient source of amino acids to support muscle anabolism and metabolic recovery. Protein does not work in demanding conditions since it takes time for benefits to appear. It furthermore takes energy to digest protein and digestion can also cause gastrointestinal upset.



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NEURIAR® in sports nutrition can deliver:

- Increased lean muscle mass
- Increased strength
- Increased endurance
- Increased aerobic capacity
- Decreased body fat

NEURIAR® is a nutritional breakthrough in sports nutrition:

- NEURIAR® in provides the strength to push-on
- NEURIAR® in supplies all essential and non-essential amino acids needed for muscle repair
- NEURIAR®'s short peptides deliver amino acids faster; are more bio-available; are an almost immediate source for restitution

NEURIAR®'s complete set of amino acids:

- Amino acids are quickly absorbed into the blood stream
- No energy is expended on digestion
- Passes through the gut blood barrier effectively



Improved physical strength for healthy ageing

Sarcopenia or muscle loss is a common condition among the elderly. 25% of adults over 65 and as many as 50% of adults over 80 may suffer from sarcopenia. This leads to loss of muscle mass and function, and results in higher incidence of falls and fractures, lower mobility, lower quality of life and higher morbidity. Older people have increased needs for proteins (e.g. amino acids), but they tend to consume less than the young. This can have serious consequences for their muscle regeneration.

Sarcopenia is to a large extent a result of poor nutrition (low in proteins), but also reduced functioning of the digestive system with the result that the body develops an amino acid deficit. This again limits the body's ability to regenerate muscle mass. Protein supplements are frequently prescribed, but these need to be digested to be useful to the body. NEURIAR® is unique in providing all the amino acids in readily usable form and in the right proportions for the human body. These effects combine to make NEURIAR® rapidly effective.

Elderly taking NEURIAR® as a daily dietary supplement will also feel the improved wellness from the increased availability of a full range of amino acids. In particular mental state, increased awareness and alertness may improve. Amino acids are used in therapies to relieve depression and elevate mood. Specific amino acids found in NEURIAR® are characterized as "brain fuel". Elderly with a sedentary lifestyle due to lack of strength and endurance can benefit from a daily boost of amino acids from NEURIAR®.

“ Even healthy people may need amino acid supplementation, because stress, age, infection and various other factors including the amount of exercise a person does, can also affect the levels of amino acids, people with healthy, nutritious diets could also find that they suffer from amino acid deficiencies.



NEURIAR DUSK®
Pure Insoluble Caviar Extract

Like 'Caviar Pearls' made with Pure Caviar Oil, NEURIAR® also contains key natural enzymes that create a critical natural defence of the human extracellular matrix, protecting collagen degradation and MMP activation. NEURIAR® originates from the placenta of the Acipenser Sturgeon 'Caviar' fish, a living fossil species which has benefited from over 300 million years of natural genetic phylogeny. Through their unique balance of the full spectrum of essential amino acids, the proteins found in the NEURIAR® have true health benefits to human immunological response systems.

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Peptides with biological activities, released during gastrointestinal digestion regulation and modulation, suggesting their potential use as nutraceuticals and functional food ingredients for health promotion and disease risk reduction. Many studies have reported that peptides from various food sources possess bioactivities, including antihypertensive, antioxidant, anticancer, antimicrobial, and opioid activities as well as immunomodulatory and cholesterol-lowering effects.



NEURIAR® demonstrates significantly higher perceived value regarding the following key value parameters:

- Its high bioavailability (speedy absorption in the body due to free amino acids and low molecular weight peptides)
- Being truly a natural product
- Containing several vital micronutrients
- Benefits being supported by product specific clinical studies
- Amino acids & smallest peptide molecules extracted from Sturgeon (Acipenser) Roe and Placenta
- Premium quality manufactured according to HACCP and EU standards
- Highest bio availability - fastest absorption
- 50% faster than whey protein
- Supports healthy ageing and slows inflammation
- A boost for mind and body
- A 100% natural non blended product
- Lowering blood pressure and helping people with diabetes
- Vital for speedy muscle recovery and increased strength
- Regulatory status: US (FDA): GRAS
- Regulatory status: EU: Not Considered Novel Food

Word Mark: NEURIAR®

Current Status: Registered LIVE (Circa: 2017)

Last Applicant/Owner: CAVIAR BIOTEC LIMITED,
563-565 Battersea Park Road, LONDON GB

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Pharmaceutical Products, Goods & Services.

Nutraceutical preparations for humans.

Nutraceutical preparations for animals.

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NEURIAR® Composition (Amino Acids)



NEURIAR DUSK



NEURIAR DAWN

Insoluble Protein (Hydrolysate/Powder)

Alanine	3.1g/100g
Arginine	3.57g/100g
Aspartic	4.91g/100g
Cystein/Cystine	0.868g/100g
Glutamic	6.89g/100g
Glycine	3.38g/100g
Histidine	1.43g/100g
Hydroxyproline	0.1g/100g
Isoleucine	2.52g/100g
Leucine	4.24g/100g
Lysine	4.21g/100g
Methionine	1.42g/100g
Ornithine	<0.05g/100g
Phenylalanine	2.42g/100g
Proline	2.6g/100g
Serine	3.06g/100g
Threonine	2.62g/100g
Tryptophan	0.699g/100g
Tyrosine	2g/100g
Valine	2.92g/100g

Soluble Protein (Hydrolysate/Powder)

Alanine	4.43g/100g
Arginine	4.56g/100g
Aspartic Acid	6.51g/100g
Cystein/Cystine	0.789g/100g
Glutamic Acid	9.68g/100g
Glycine	6.05g/100g
Histidine	1.69g/100g
Hydroxyproline	0.1g/100g
Isoleucine	2.89g/100g
Leucine	4.87g/100g
Lysine	5.38g/100g
Methionine	1.71g/100g
Ornithine	<0.05g/100g
Phenylalanine	2.59g/100g
Proline	3.89g/100g
Serine	3.13g/100g
Threonine	2.94g/100g
Tryptophan	0.618g/100g
Tyrosine	2.23g/100g
Valine	3.46g/100g

*: Cystine only

Recognised effects to the human body of individual amino acids

Alanine: cholesterol reducing effect, enhances immune system

Arginine: improve glucose metabolism, reduces healing time of injuries, quickens repair time of damaged tissue, helps decrease blood pressure in clinical hypertensive subjects.

<http://www.nutraingredients-usa.com/Research/Aminoacid-supplements-may-offer-diabetes-hope-Mouse-data>

Asparagine: required by the nervous system

Aspartic acid: needed for stamina, brain and neural health

Branched chain amino acids (valine, leucine, isoleucine) help to maintain muscle tissue, reduce muscle loss

Cysteine: important in collagen production (skin protein) and detoxification of the body; supports iron absorption to the body <http://bloodjournal.hematology/library.org/content/35/5/669.full.pdf>

Cystine: needed in healing of burns and wounds; anti-aging effect

Glutamic acid: important neurotransmitter; important in metabolism of sugars and fats; used as fuel to the brain

Glutamine: important for the immune function; in removing ammonia from the brain;

used in treatment of wasting muscles after surgery

Glycine: helps in absorption of calcium in the body; key role in manufacturing of hormones and in health of the immune system; helps to prevent epileptic seizures

Histidine: used to produce the neurotransmitter histamine; needed for growth and repair of tissue; helps in protection of nerve cells; required for the manufacture of both red and white blood cells

Isoleucine: promotes muscle recovery; needed for the formation of hemoglobin

Leucine: promotes muscle recovery; helps regulation of blood sugar levels; growth and repair of muscle tissue; hormone production; wound healing

Kaastra, B., R.J.F. Manders, E. van Breda, A. Kies, A.E. Jeukendrup, H.A. Keizer, H. Kuipers and L.J.C. van Loon, 2006. Effects of increasing insulin secretion on acute post-exercise blood glucose disposal.

Med. Sci. Sports Exerc. 38:268-275

Lysine: helps production of muscle protein; needed in recovery from injury and after operations

Methionine: used to treat depression, arthritis pain and chronic liver disease

Phenylalanine: used to elevate mood; helps memory and learning; appetite suppressant

Proline: improves skin texture; skin protein (collagen) contains 15% proline; important for muscles, joints and tendons

Serine: required in fat metabolism, tissue growth and for the immune system (production of immunoglobulins and antibodies); important in the formation of cell membranes

Taurine: Essential for cardiovascular function, and development and function of skeletal muscle, the retina and the central nervous system. It also acts as an antioxidant, and has been shown to help people with congestive heart failure

Threonine: found in high concentration in the heart, skeletal muscles and central nervous system; used in treatment of mental health; helps maintaining proper protein balance in the body

Tryptophan: needed to maintain optimum health; a natural relaxant, alleviates insomnia; helps in the treatment of migraine headaches

Tyrosine: precursor of important neurotransmitters (epinephrine, norepinephrine, dopamine); used for stress reduction; suppresses appetite and reduces body fat

Valine: found in high concentration in the muscles; required in muscle metabolism; needed for repair and growth of tissue; used as energy source for muscles