# BRANCH CHAIN AMINOS BCAA'S source of information: Essential Guide to Amino Acids By Dr.Barrie Finnin BPharm,PhC,PhD,FPS

# BCAA's - Branch Chain Amino Acids are the "Building Blocks" of the body.

They make up 35% of your muscle mass and must be present for molecular growth and development to take place. Besides building cells and repairing tissue:

- they form antibodies
- they are part of the enzyme & hormonal system
- they build RNA and DNA
- they carry oxygen throughout the body.

# Now Lets Examine each one in detail : (Isoleucine,Leucine,Valine)

## • 1) Isoleucine

- Made from Legumes, Fish
- Provides synthesis of both GLUCOSE and ketone Bodies
   Ketone Bodies form Keto acid which becomes succinyl-CoA which enters
   the CITRIC ACID CYCLE to produce ENERGY
- Isoleucine is important for PROTEIN SYNTHESIS and ENERGY

#### Medical uses:

- Prevents muscle wasting in cancer patients
- Used for liver failure cases
- Diseases of the spinal cord that causes muscle wasting

### • Uses in Sport:

 Provides ENERGY and ASSISTS IN RECOVERY (used in combination with Leucine and valine)

### 2)Leucine:

- Dietary source: Fish, legumes
- Supplementation of leucine is more efficient that consuming Fish or Legumes by +40%
- Protein synthesis and energy
- Important factor to modulate neurotransmitters for the central nervous system
- Modulates the release of pain nerve receptors (body's own opiates)

#### **Medical Uses:**

• Prevents muscle wasting in cancer patients

Helps in diseases of spinal cord that causes muscle wasting

#### Sport Uses:

Used in combination with Isoleucine and Valine to provide ENERGY and ASSIST IN RECOVERY

 Leucine decreases protein degradation and increases protein synthesis (in other words STOPS MUSCLE BREAKDOWN while facilitating MUSCLE BUILDING note by GH)

#### • 3)Valine

- Dietary sources Fish and legumes
- Along with the other branch chain aminos Valine can influence the uptake into the brain of the neurotransmitter, precursors, tryptophan, phenylalanine and tyrosine

#### Medical uses

- Used to treat coma caused by liver failure
- Prevent muscle wasting of surgery patients
- Prevents muscle wasting of diseases effecting nerves and spinal cord

#### Sports Uses

 Used in combination with the other branch chain amino acids to facilitate the provision of ENERGY and ASSIST RECOVERY

"The Branch Chain aminos BCAA'S provide ENERGY, Assist RECOVERY and as a result PREVENT MUSCLE SORENESS also our product RESERRECT has a HUGE CLINICAL DOSE of 5 grams = one teaspoon of BCAA's per serve, these products only work effectively with clinical dosages as we have in our products, please CHECK THE INGREDIENT LABLES (of any competitor) and you will notice that most inferior products have only miniscule amounts of these KEY Ingredients which are ineffective if not taken in clinical dosages ie 5 grams BCAAS and L-GLUTAMINE and 1.5 Grams HMB "notes by GH"

OUR RECOMMENDED PRODUCT THAT SUPPLYS A HUGE (5grams) of Rice Fermented (Highest Quality)L-Glutamine in each serve (plus BCAA's 5 grams and HMB 1.5 grams)

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