

mTOR Part 7 of 7

- >PDE inhibitor=Able to activate more PKA (ie; mobilizing fats/catabolism)
ie; Theophylline, chocolate and caffeine
- >Effects in performance (aerobic), but doesn't impair muscle responses

All AA matter, but leucine amplifies protein synthesis

HMB; derivative of leucine that stimulates protein synthesis and exhibits an anti-catabolic effect

TMG; Enhances anabolic endocrine and PBK signaling

Phosphatidyl Serine; Tampers with the catabolic effects of cortisol

Phosphatidic acid; Enhances mTOR signaling

Catabolic Supplements: Beneficial for endurance athletes

Conditions that maximize activation

- > Chemical: Heat
- > Mechanical: Loads (Excess)
- > Hormonal: Hypothalamus, Pituitary (GH)
- > Nutritional: Protein, Carbs, Fat (insulin response)

Needs AA>mTOR>Protein Synthesis>Links AA (Circle back)

Recap:

1. What is hypertrophy?
Protein translation; manufacturing protein (synthesis outpacing degradation)
2. Why does hypertrophy happen?
Environmental stressors that the body adapts to and decreases possible injury
3. How does it occur?
cell signaling cascades: mTOR (mostly), steroid hormones (testosterone)
4. mTOR
5. Supplements, inflammation process, Henneman's,
6. What enzyme stops mTOR?
>AMPK, PKA
Why?; Saving energy
How?; Inhibit Raptor
How does it get activated?; LKB1 in the presence in energy deficit
7. How do you eliminate AMP?
>AMPdeaminase; that is inhibited by metformin