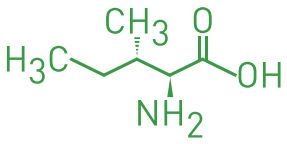
CJ BIO

BEST AMINO™

L-ISOLEUCINE

CHEMICAL STRUCTURE OF L-ISOLEUCINE



Isoleucine is a part of the BCAAs (Isoleucine, Leucine and Valine), and one of the essential amino acids. BCAAs are involved in body composition and regulation of protein metabolism, promoting healthy growth.

CJ Isoleucine is tailor-made for feed use, providing optimization of the efficiency and economy of feed.

MAIN BENEFITS OF L-ISOLEUCINE

BCAA IS A KEY IN FEED EFFICIENCY

01 Next limiting amino acid

- Isoleucine, together with Valine, is generally considered as the next limiting amino acids in monogastric animal diets.

02 Optimizing growth performance

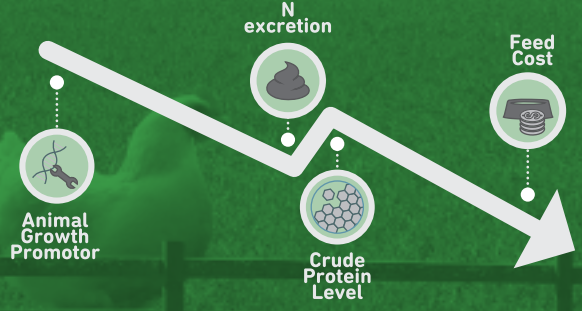
- BCAAs are key amino acids for protein synthesis. Isoleucine optimizes the growth performance of animals by balancing BCAA in the feed.

03 Saving feed cost

- Isoleucine helps save feed costs by enabling reducing the use of expensive protein sources such as SBM.

04 Reducing N-excretion

- Low protein feeds reduce nitrogen excretion by optimizing feed nitrogen utilization.



RECOMMENDATION OF ISOLEUCINE RATIO TO LYSINE %

Poultry

	Starter	Grower	Finisher / Layer
Broilers	67	68	69
Layers	72	75	78

Pig

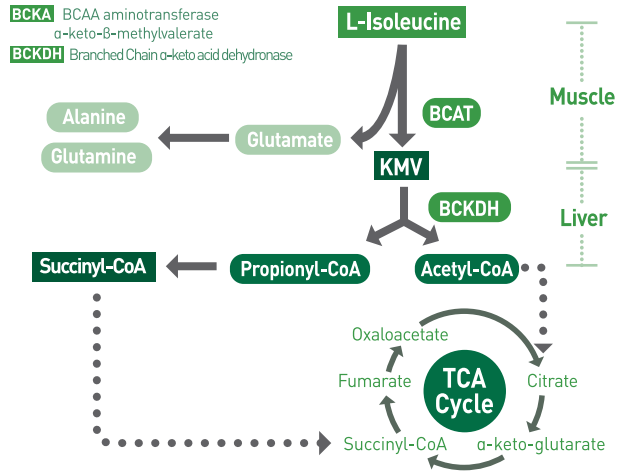
	Piglet	Grower	Finisher / Gestation / Lactation
Swine	53-54	55-56	56
Sow	59 (Gestation)	55 (Lactation)	

METABOLISM OF ISOLEUCINE

Mechanism mainly occurs in skeletal muscles and plays a very important role in muscle protein formation.

Balance of BCAA contents is important, since BCAAs share enzymes (BCAT and BCKDH) with each other. When the balance is broken, the growth performance and immune system deteriorate.

For some feedstuffs (especially blood products), the leucine content can be very high, the addition of isoleucine should be considered.



FUNCTIONS OF ISOLEUCINE

FEED INTAKE AND PROTEIN SYNTHESIS

The supply of sufficient isoleucine is of great importance, as insufficient supply of BCAA activates GCN2 expression which may impact feed intake and protein synthesis. Also, BCAA increases protein synthesis by activating mRNA expression Level.

GUT HEALTH / IMMUNITY

BCAA increases expression of amino acid transporter in intestines, influencing intestinal functions. Isoleucine enhances immunity by optimizing the expression of β-defensin, and production of e-NOS (endothelial nitric oxide synthase), thereby immune system.

NURSERY PERFORMANCE

Isoleucine enhances growth of mammary cells and fatal development through mTOR signaling pathway and expression of IGF-1 and 2 in fetal liver. Sow intake of BCAA are synthesized to Glutamate, Aspartate and Glutamine. Which are critical components of milk protein.

ENERGY EFFICIENCY

Isoleucine aids in glucose uptake and energy utilization in the intestine and muscle by the expression of intestinal and muscular glucose transporters.