

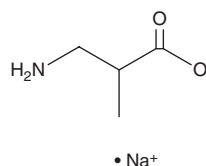
# PRODUCT INFORMATION



## 3-Aminoisobutyric Acid (sodium salt)

Item No. 26537

**CAS Registry No.:** 84796-61-2  
**Formal Name:** 3-amino-2-methyl-propanoic acid, monosodium salt  
**Synonyms:**  $\beta$ -Aminoisobutyric Acid, BAIBA  
**MF:**  $C_4H_8NO_2 \cdot Na$   
**FW:** 125.1  
**Purity:**  $\geq 95\%$   
**UV/Vis.:**  $\lambda_{max}$ : 204 nm  
**Supplied as:** A crystalline solid  
**Storage:**  $-20^\circ C$   
**Stability:**  $\geq 4$  years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

3-Aminoisobutyric acid (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the 3-aminoisobutyric acid (sodium salt) in the solvent of choice, which should be purged with an inert gas. 3-Aminoisobutyric acid (sodium salt) is soluble in the organic solvent DMSO at a concentration of approximately 10 mM.

### Description

3-Aminoisobutyric acid is a non-protein amino acid formed during thymine catabolism.<sup>1</sup> It induces browning in primary adipocytes, increasing the expression of uncoupling protein 1 (UCP-1) and CIDEA when used at a concentration of 5  $\mu M$ . It also increases the expression of PPAR $\alpha$  in primary adipocytes and in mouse inguinal white adipose tissue (WAT) *in vivo* and increases  $\beta$ -oxidation in hepatocytes. Plasma levels of 3-aminoisobutyric acid are increased in mice following exercise and, when administered at a dose of 100 mg/kg per day, it decreases weight gain and body fat percentage without decreasing food intake or increasing energy expenditure, and improves glucose tolerance. Levels of 3-aminoisobutyric acid are elevated in the plasma, urine, and cerebrospinal fluid of patients with  $\beta$ -ureidopropionase deficiency, a disorder characterized by an inborn error of pyrimidine degradation.<sup>2</sup>

### References

1. Roberts, L.D., Boström, P., O'Sullivan, J.F., *et al.*  $\beta$ -Aminoisobutyric acid induces browning of white fat and hepatic  $\beta$ -oxidation and is inversely correlated with cardiometabolic risk factors. *Cell Metab.* **19**(1), 96-108 (2014).
2. van Kuilenburg, A.B., Meinsma, R., Beke, E., *et al.*  $\beta$ -Ureidopropionase deficiency: An inborn error of pyrimidine degradation associated with neurological abnormalities. *Hum. Mol. Genet.* **13**(22), 2793-2801 (2004).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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