

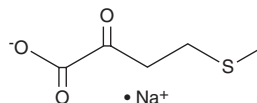
PRODUCT INFORMATION



MTOB (sodium salt)

Item No. 45462

CAS Registry No.: 51828-97-8
Formal Name: 4-(methylthio)-2-oxo-butanoic acid, monosodium salt
Synonyms: KMTB, 2-Keto-5-methyl-thiobutyrate, α -Keto- γ -(methylthio)butyric Acid, 4-Methylthio-2-oxobutanoate
MF: $C_5H_7O_3S \cdot Na$
FW: 170.2
Purity: $\geq 98\%$
Supplied as: A solid
Storage: $-20^\circ C$
Stability: ≥ 4 years



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

Laboratory Procedures

MTOB (sodium salt) is supplied as a solid. Aqueous solutions of MTOB (sodium salt) can be prepared by directly dissolving the solid in aqueous buffers. MTOB (sodium salt) is soluble (≥ 10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

MTOB is an intermediate in the methionine salvage pathway.¹ It is also a substrate of the dehydrogenase domain of C-terminal-binding protein 1 (CtBP1) and CtBP2 that inhibits the transcriptional corepressor activity of CtBP1 and -2 at concentrations in the millimolar range.² MTOB reduces cell viability in p53 wild-type and p53 knockout HCT116 colorectal cancer cells and induces apoptosis in p53 knockout HCT116 cells. It inhibits growth of MCF-7 breast cancer, MDA-MB-231 breast cancer, and U2OS osteosarcoma cells in a concentration-dependent manner. MTOB reduces tumor mass and ascites volume in a mouse xenograft model using HCT116 cells lacking p53 when administered at a dose of 750 mg/kg. It also reduces the neurological severity score (NSS) and the loss of righting reflex duration in a mouse model of traumatic brain injury.³

References

1. Subhi, A.L., Diegelman, P., Porter, C.W., *et al.* Methylthioadenosine phosphorylase regulates ornithine decarboxylase by production of downstream metabolites. *J. Biol. Chem.* **278(50)**, 49868-49873 (2003).
2. Straza, M.W., Paliwal, S., Kovi, R.C., *et al.* Therapeutic targeting of C-terminal binding protein in human cancer. *Cell Cycle* **9(18)**, 3740-3750 (2010).
3. Li, H., Zhang, C., Yang, C., *et al.* C-terminal binding proteins 1 and 2 in traumatic brain injury-induced inflammation and their inhibition as an approach for anti-inflammatory treatment. *Int. J. Biol. Sci.* **16(7)**, 1107-1120 (2020).

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.

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