

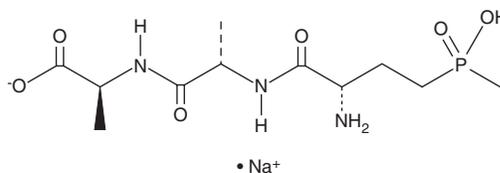
PRODUCT INFORMATION



Bialaphos (sodium salt)

Item No. 16754

CAS Registry No.: 71048-99-2
Formal Name: 2S-amino-4-(hydroxymethylphosphinyl) butanoyl-L-alanyl-L-alanine, monosodium salt
Synonym: SF 1293
MF: C₁₁H₂₁N₃O₆P • Na
FW: 345.3
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

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

Description

Bialaphos is a natural non-selective phytotoxin produced by certain *Streptomyces* species. It is a pro-toxin, a tripeptide that is converted *in vivo* to the active agent phosphinothricin, which is a glutamine analog.¹ L-Phosphinothricin inhibits glutamine synthetase ($K_i = 6.1 \mu\text{M}$), resulting in accumulation of ammonium and disruption of primary metabolism.^{2,3} The bacterial *bar* gene encodes a phosphinothricin acetyltransferase, which confers resistance to phosphinothricin.⁴ Bialaphos is used in the selection of transgenic plants that express the *bar* gene, usually under the control of a constitutively active viral promoter.⁴

References

1. Duke, S.O. and Dayan, F.E. Modes of action of microbially-produced phytotoxins. *Toxins (Basel)* **3(8)**, 1038-1064 (2011).
2. Ericson, M.C. Purification and properties of glutamine synthetase from spinach leaves. *Plant Physiol.* **79(4)**, 923-927 (1985).
3. Block, M.D., Botterman, J., Vandewiele, M., *et al.* Engineering herbicide resistance in plants by expression of a detoxifying enzyme. *EMBO J.* **6(9)**, 2513-2518 (1987).

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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