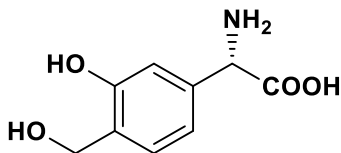


PRODUCT DATA SHEET

Forphenicolin

(Immunomodifier)



Synonyms: (S)-2-(3-hydroxy-4-hydroxymethylphenyl)glycine, Forfenimex

Specifications

Code No.	: 09637
CAS#	: 71522-58-2
Molecular Formula	: C ₉ H ₁₁ NO ₄
Molecular Weight	: 197.190
Source	: Synthetic derivative of forphenicine
Appearance	: White powder
Purity	: >98% (HPLC)
Long Term Storage	: at -20 °C
Solubility	: Soluble in MeOH, DMSO, H ₂ O Insoluble in Hexane

The chemical structure was confirmed by NMR and HRMS.

Application Notes

Forphenicolin is a synthesized derivative of forphenicine, the inhibitor of alkaline phosphatase produced by *Streptomyces*.^{1,2} Forphenicolin augments delayed-type hypersensitivity (DTH) response induced by both sheep red blood cells (SRBC) or oxazolone by oral administration of 1-100 µg/mouse.³ The treatment with forphenicolin restores DTH in mice immuno-suppressed by cyclophosphamide to normal response at 100 µg/mouse.³ Forphenicolin neither augments antibody-formation nor stimulates proliferation of lymphocytes in the presence or absence of lectins.³ Phagocytosis by peritoneal macrophages is enhanced by forphenicolin *in vivo* and *in vitro*.³ Forphenicolin is effective in increasing the production of the colony-forming unit in culture (CFU-C) in the presence of colony stimulating factor and partially prevents the reduction of leucocyte counts caused by mitomycin C.³ Ehrlich carcinoma is suppressed by treatment with 0.08-0.31 mg/kg/day of forphenicolin given for 10 days starting 5 days after tumor inoculation but it does not show antitumor effect in larger doses.⁴ IMC carcinoma is also suppressed by treatment with 0.5-5 mg/kg/day given for 5 days starting 8 days after the inoculation.⁴ In case of fast-growing tumors such as L1210, forphenicolin does not show any effect on prolongation of the survival period, but it markedly enhances the antitumor effect of 6-mercaptopurine, aclacinomycin or cyclophosphamide.⁴ Forphenicolin shows a protective effect on mouse model of *Pseudomonas aeruginosa* infection.⁴

References

- 1) Forphenicine, an inhibitor of alkaline phosphatase produced by actinomycetes. Aoyagi T, *et al. J Antibiot.* 1978 31(3) 244-246.
- 2) Synthesis of forphenicolin and forphenicine. Morishima H, *et al. J Antibiot.* 1982 35(11) 1500-1506.
- 3) Studies on effects of forphenicolin on immune responses. Ishizuka M, *et al. J Antibiot.* 1982 35(8) 1042-1048.
- 4) Antitumor effect of forphenicolin, a low molecular weight immunomodifier, on murine transplantable tumors and microbial infections. Ishizuka M, *et al. J Antibiot.* 1982 35(8) 1049-1054.