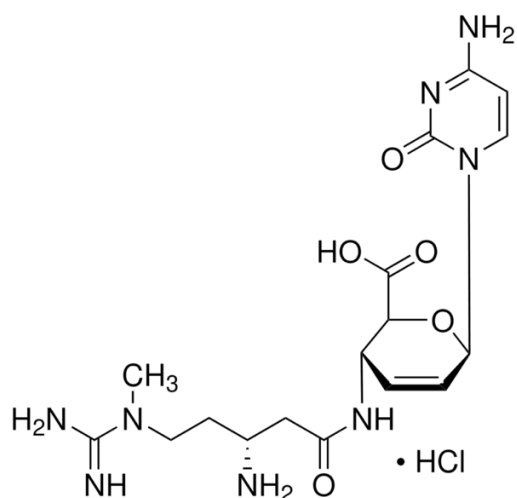


Blasticidin S, Hydrochloride 10mg/mL

Antibiotics

CATALOG NUMBER: MA019

DESCRIPTION:



Originally isolated from *Staphylococcus griseus*, Blasticidin S is a bacterial metabolite known for its antibacterial and fungicidal activity. This compound is a potent inhibitor of protein synthesis and is active against a wide variety of microorganisms, including bacteria (*Bacillus subtilis*, *Fusarium* spp. fungi, *E. coli*, *Proteus fluorescens*, and *Mycobacterium tuberculosis*), tumor cell lines, and nematodes.

Blasticidin S has become a valuable tool in research, especially as a marker for strain manipulation. Recent applications include the use of Blasticidin S as a selecting agent for cells carrying a blasticidin-resistant plasmid. This resistance is mediated by the spasmodicin S deaminase gene (*bsr* in *Bacillus cereus* or *BSD* in *B. subtilis*). The enzymes produced by these genes catalyze the hydrolytic deamination of the cytosine molecule in cyanidin S, resulting in

the formation of a nontoxic deaminated hydroxyl derivative. This mechanism of resistance is critical in a variety of cell biology and biochemistry studies involving gene manipulation and selection.

APPLICATION:

Blasticidin S has been widely used as a selection agent for transformed cells that contain the resistance genes *bls*, *bsr*, or *bsd*.

CAS NUMBER: 3513-03-9

MOLECULAR WEIGHT: 458.9

STRUCTURE: C₁₇H₂₇N₈O₅Cl

PACKING SIZE: 1mL

CONCENTRATION: 10mg/mL (20mM HEPES, pH7.3)

WORKING CONCENTRATION: Mammalian cells are sensitive to blasticidin concentrations of 1-10µg/mL, and bacteria to 25-100µg/mL.

STERILITY: 0.22µm filtered

STORAGE & STABILITY: 2-8°C for 1 month; -20°C for long term storage.

REFERENCES:

1. Izumi M. et al., 1991. Blasticidin S-resistance gene (*bsr*): A novel selectable marker for mammalian cells. *Exp.Cell Res.*197:229-33.
2. Perez-Gonzalez J. et al., 1990. Cloning and characterization of the gene encoding a blasticidin S acetyltransferase from *Streptomyces* sp. *Gene.* 86:129-34.
3. Kimura M. et al., 1994. Blasticidin S deaminase gene from *Aspergillus terreus* (*BSD*): a new drug resistance gene for transfection of mammalian cells. *Biochim. Biophys. Acta.* 1219:653-9.

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MACGENE Biotechnology ● Phone: (010)8205-7786 ● (010)6237-9789

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