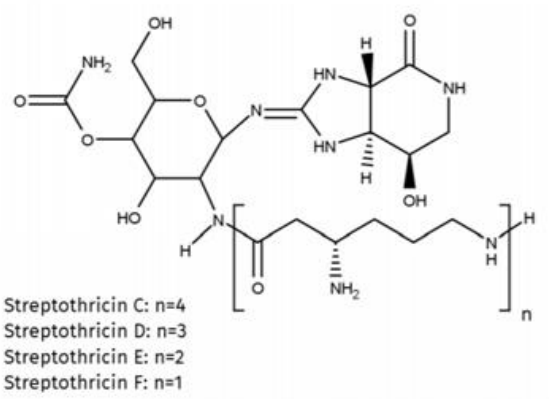
Product Information

Nourseothricin Sulfate

Selection Agent, suitable for Cell Culture

N0186
Storage temperature -20 °C

CAS RN: **96736-11-7**
Synonyms: **Streptothricin**



Product Description

Nourseothricin is produced in cultures of a strain of *Streptomyces noursei*.[2] Characteristic for Nourseothricin are the high stability of its crystalline salts (10 years at 4 °C, 2 years at 20 °C), its very good solubility in water, and its wide range of antibiotic effects against gram-negative and gram-positive bacteria as well as against mycobacteria, mycoplasma, protozoa, certain DNA and RNA viruses. The inhibition of the growth processes of yeasts and fungi is weaker. Nevertheless, Nourseothricin sulphate is exceptionally suitable for the selection of recombinant yeast strains.[3]

The mechanism of action or Nourseothricin is comparable to that of other aminoglycoside antibiotics: Specific partial steps of protein synthesis are inhibited, and miscoding is induced by the antibiotic.

Nourseothricin sulphate is suitable as selection antibiotic in systems using resistance genes nat, sat, stat since resistance dominants are not selected.

Components

Dihydrogensulfate of the weakly basic antibiotic Nourseothricin (NTC) consisting of Min. 85% of the components Streptothricin F and D, balance is mainly streptothricin C and E (up to 15%).

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

This material is non-sterile. Prepare a stock solution of 200 mg/mL. For working solutions, dilute in distilled water to the required concentrations. Filter sterilize before adding to cells.

Recommended suitable Nourseothricin sulphate concentrations in nutrient media:

- Escherichia coli 50 µg/mL
- Saccharomyces cerevisiae 100 µg/mL
- Ustilago maydis 75 µg/mL
- Leishmania sp > 100 µg/mL
- Cryptococcus neoformans 100 µg/mL
- Arabidopsis thaliana 100 µg/mL

Storage/Stability

The stock solutions may be stored at 4 °C for up to 4 weeks without detectable loss in activity. For longer storage, freezing at -20 °C or lower is recommended.

Product Profile

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References

1. H Krügel, G Fiedler, C Smith, S Baumberg, Sequence and transcriptional analysis of nourseothrycin acetyltransferase-encoding gene nat-1 from *Streptomyces noursei*, Gene 127, pp 127 – 131, 1993.
2. A L Goldstein, J H McCusker, Three New Dominant Drug Resistance Cassettes for Gene Disruption in *Saccharomyces cerevisiae*, Yeast 15, pp 1541 – 1553, 1999.
3. H Bocker, F Bergter, Nourseothricin-Eigenschaften, Biosynthese, Herstellung, Arch exper Vet med, Leipzig, 40, pp 646 – 657, 1986.
4. S Horinouchi, K Furuya, M Nishiyama, H Suzuki, T Beppu, Nucleotide sequence ofthe streptothricin acetyltransferase gene from *Streptomyces lavendulae* and ist expression in heterologous hosts, J Bacteriol169, pp 1929 – 1937, 1987.
5. U Heim, E Tietze, W Weschke, H Tschäpe, U Wobus, Nucleotide sequence of a plasmid-born streptothicinacetyltransferase gene (sat1), Nucleic Acids Res 17, p 7103, 1983.
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8. U Zähringer, W Voigt, G Seltmann, Nourseothricin (streptothricin) inactivated by plasmid pIE 636 encodedacetyl transferase of *Escherichia coli*. Location of the acetyl group. FEMS Microbiology Letters 110, pp 331 – 334, 1993.

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