DATA SHEET

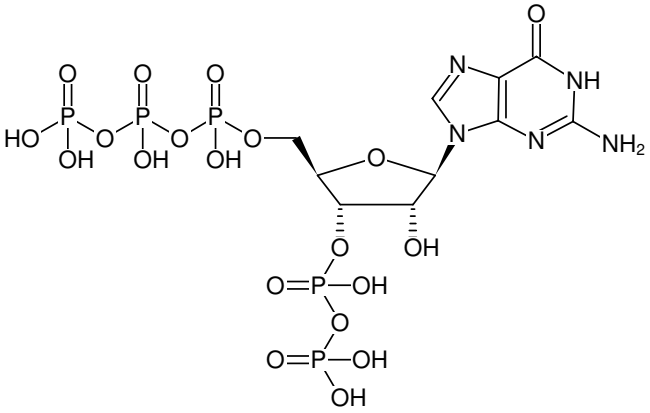
Jena Bioscience

Guanosine-3',5'-pentaphosphat

(pppGpp)

Guanosine-3'-diphosphate-5'-triphosphate, Lithium salt

Cat. No.	Amount
NU-885S	10 µl (100 mM)
NU-885L	5 x 10 µl (100 mM)



Structural formula of Guanosine-3',5'-pentaphosphat

For general laboratory use.

Shipping: shipped on gel packs

Storage Conditions: store at -20 °C

Short term exposure (up to 1 week cumulative) to ambient temperature possible.

Shelf Life: 12 months after date of delivery

Molecular Formula: $C_{10}H_{18}N_5O_{20}P_5$ (free acid)

Molecular Weight: 683.14 g/mol (free acid)

Exact Mass: 682.92 g/mol (free acid)

Purity: ≥ 85 % (HPLC)

Form: solution in water

Color: colorless to slightly yellow

Concentration: 100 mM - 110 mM

pH: 7.5 ±0.5

Spectroscopic Properties: λ_{max} 252 nm, ε 13.6 L mmol^{-1} cm^{-1} (Tris-HCl pH 7.5)

Description:
(p)ppGpp (collective for ppGpp and pppGpp) is a nucleotide based second messenger and a key regulator of stringent stress response in many bacteria[1]. During nutritional starvation (p)ppGpp initiates the switch from bacterial growth into survival mode. Growth is arrested as (p)ppGpp binds RNA polymerase (RNAP) leading to repressed transcription rate of stable RNA (rRNA, tRNA). Instead, transcription of genes involved in biosynthesis of amino acids is enhanced, leading to prolonged survival[2].

Related Products:
ppGpp, #NU-884

Selected References:
[1] Hauryliuk *et al.* (2015) Recent functional insights into the role of (p)ppGpp in bacterial physiology. *Nature Reviews Microbiology*.

[2] Dalebroux *et al.* (2012) ppGpp: magic beyond RNA polymerase. *Nature Reviews Microbiology* **10 (3)**:203.