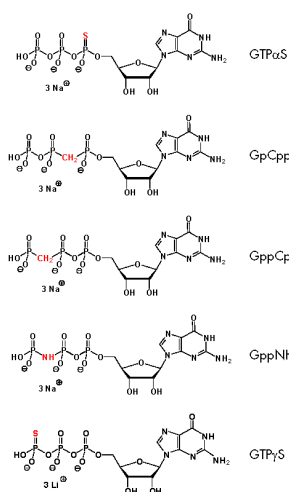




Non-hydrolyzable GTP Test Kit

screening kit for GTP-binding proteins

Cat. No.	Amount
NK-102	5 GTP analogs



Structures of non-hydrolyzable Guanosine-5'-triphosphate analogs

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

Description:

The enzymes involved in hydrolysis of nucleoside triphosphates are a major focus of biochemical research, targeting the understanding and treatment of cellular processes involved in diseases such as cancer, viral infections, cardiovascular and motional disorders. To elucidate the mechanisms of action of these enzymes, it is often desirable to trap the enzymes in their triphosphate-bound state. Since natural nucleotides are hydrolyzed at rates usually preventing such studies, nucleotide analogs are used that are hydrolyzed at much smaller rates or that are even completely resistant to hydrolysis.

The Non-hydrolyzable GTP Test Kit contains a set of 5 typical non-hydrolyzable Guanosine-5'-triphosphate analogs.

The position of the modification within the triphosphate exerts influence on its binding affinity to a particular enzyme and its hydrolysis rate.

This Kit is designed to identify the most suitable non-hydrolyzable GTP derivative for your application.

Content:

Non-hydrolyzable Guanosine Nucleotide	Cat. No.	Amount
GTPαS	NU-409S	25 µl (100 mM)
GpCpP	NU-405S	100 µl (10 mM)
GppCp*	NU-402-5	5 mg
GppNHp*	NU-401-10	10 mg
GTPγS*	NU-412-2	2 mg

Included as a solid for stability reasons. Please dissolve in water and adjust concentration photometrically (extinction coefficient $\epsilon_{252nm} = 13.700 \text{ M}^{-1}\text{cm}^{-1}$) prior to use to obtain a fresh solution.

Selected References:

Shiba *et al.* (2002) Hypocretin stimulates [(35)GTP gamma S binding in Hcrr 2-transfected cell lines and in brain homogenate. *Biochem. Bioph. Res. Co.* **294** (3):615.

Esters *et al.* (2001) High-resolution crystal structure of *S. cerevisiae* Ypt51 (Delta C15)-GppNHp, a small GTP-binding protein involved in regulation of endocytosis. *J. Mol. Biol.* **298** (1):111.

Ryder *et al.* (1999) Nucleotide analog interference mapping. *Methods* **18** (1):38.

Muller-Reichert *et al.* (1998) Structural changes at microtubule ends accompanying GTP hydrolysis: information from a slowly hydrolyzable analogue of GTP, guanylyl (alpha,beta) methylenediphosphonate. *Proc. Natl. Acad. Sci. USA* **95** (7):3661.

Dye *et al.* (1996) Assembly of microtubules from tubulin bearing the nonhydrolyzable guanosine triphosphate analogue GMPPCP [Guanylyl 5'-(beta,gamma-methylenediphosphonate)]: Variability of growth rates and the



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hydrolysis of GTP. *Biochemistry-US* **35 (45)**:14331.