Neomycin, HRP conjugate

DAG1248

Lot. No. (See product label)

PRODUCT INFORMATION

Product overview	Neomycin, HRP conjugate
Antigen Description	Aminoglycosides are a family of bacterial antibiotics that are used in the treatment of specific bacterial infections. They display a concentration dependent killing action and are active against a wide range of aerobic Gram-negative bacilli. Aminoglycosides are molecules that are comprised of an amino group and a sugar group. They operate by inhibiting the bacteria from producing proteins vital to its growth. More specifically, they bind to the bacterial 30S ribosomal subunit where they prevent the translocation of the peptidyl-tRNA from the A-site to the P-site, subsequently giving rise to a misreading of mRNA resulting in the inhibition of protein synthesis. This consequently results in a disruption to the integrity of the bacterial cell membrane. In addition to their use to prevent bacterial infection, aminoglycosides have been used as growth promoters in food producing animals.
Source	Aminoglycosides
Conjugate	HRP
Form	concentrate
Characteristic	Each conjugate comprises antigen covalently bound to horseradish peroxide and is suitable as a tracer in immunoassay development

PACKAGING

Storage	Can be stored at 2-8°C for up to 3 months and at -20°C for longer term storage.

BACKGROUND

Introduction	Neomycin is an aminoglycoside antibiotic found in many topical medications such as creams, ointments, and eyedrops. The discovery of neomycin dates back to 1949. It was discovered in the lab of Selman Waksman, who was later awarded the Nobel Prize in Physiology and medicine in 1951. Neomycin belongs to aminoglycoside class of antibiotics that contain two or more aminosugars connected by glycosidic bonds. Neamine (two rings), ribostamycin (three rings), paromomycin (four rings), and lividomycin (five rings) are some other examples of aminoglycosides. They have shown tremendous potential as antibacterials. One of them, gentamicin, has been used extensively in clinical practice. Due to the inherent oto- and nephrotoxicity of these substances, systemic use has declined, as safer alternatives have become available.
Keywords	Neomycin; (2S,3S,4S,5R)-5-amino-2-(aminomethyl)-6-((2R,3S,4R,5S)-5-((1R,2R,5R,6R)-3,5-diamino-2-((2R,3S,4R,5S)-3-amino-6-(aminomethyl)-4,5-dihydroxytetrahydro-2H-pyran-2-yloxy)-6-hydroxycyclohexyloxy)-4-hydroxy-2-(hydroxymethyl)tetrahydrofuran-3-yloxy)tetrahydro-2H-pyran-3,4-diol; fradiomycin; myacyne; mycifradin; neolate; neomas; neomcin; Bycomycin; Jernadex; Pimavecort; Vonamycin Powder V; Neomyacin

REFERENCES

1. “Aminoglycosides: Bacteria and Antibacterial Drugs: Merck Manual Professional”. 2. Aminoglycosides versus bacteria--a description of the action, resistance mechanism, and nosocomial battleground. J Biomed Sci. 2008 Jan,15(1):5-14.

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