

## Apramycin, HRP conjugate

DAG1041

Lot. No. (See product label)

### PRODUCT INFORMATION

<b>Product overview</b>	Apramycin, HRP conjugate
<b>Antigen Description</b>	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.
<b>Source</b>	Antimicrobial Drugs
<b>Conjugate</b>	HRP
<b>Form</b>	concentrate
<b>Characteristic</b>	Each conjugate comprises antigen covalently bound to horseradish peroxide and is suitable as a tracer in immunoassay development

### PACKAGING

<b>Storage</b>	Can be stored at 2-8°C for up to 3 months and at -20°C for longer term storage.
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### BACKGROUND

<b>Introduction</b>	Apramycin stands out among aminoglycosides for its mechanism of action which is based on blocking translocation and its ability to bind also to the eukaryotic decoding site despite differences in key residues required for apramycin recognition by the bacterial target. The drug binds in the deep groove of the RNA which forms a continuously stacked helix comprising non-canonical C.A and G.A base pairs and a bulged-out adenine. The binding mode of apramycin at the human decoding-site RNA is distinct from aminoglycoside recognition of the bacterial target, suggesting a molecular basis for the actions of apramycin in eukaryotes and bacteria.
<b>Keywords</b>	Apramycin; Nebramycin II; 3,7-trideoxy-7-(methylamino)-d-glycero-alpha-d-allo-octadialdo-1,5:8,4-dipyra; apralan; nebramycinfactor2; 4-O-((8R)-2-Amino-8-O-(4-amino-4-deoxy-alpha-D-glucopyranosyl)-2,3,7-trideoxy-7-(methylamino)-D-glycero-alpha-D-allo-octodialdo-1,5:8,4-dipyrans-1-yl)-2-deoxy-D-streptamine

### 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.