# Gentamicin (102): sc-57742



The Power to Question

#### **BACKGROUND**

Gentamicin is an aminoglycoside antibiotic obtaines from *Micromonospora purpurea* and related species. It is used to treat many types of bacterial infections, particularly Gram-negative bacteria. Gentamicin functions by binding to the bacterial 30S ribosomal subunit, thereby inhibiting the translocation of the peptidyl-tRNA from the A-site to the P-site and also causing the genetic code to be misread. This causes the cell to be unable to synthesize proteins that are vital to its growth. If taken orally, Gentamicin is absorbed in the small intestine before it reaches the portal vein to the liver and becomes inactivated, so this drug must be given intravenously, intramuscularly or topically. With a molecular weight of 477.596 g/mol, Gentamicin is one of the few heat-stable antibiotics. Because it remains active even after autoclaving, Gentamicin is useful in preparing certain microbiological growth media.

## **REFERENCES**

- Ozker. K. and Urgancioglu, I. 1981. 99mTc-gentamicin: chemical and biological evaluation. Eur. J. Nucl. Med. 6: 173-176.
- Hiel, H., Erre, J.P., Aurousseau, C., Bouali, R., Dulon, D., and Aran, J.M. 1993. Gentamicin uptake by cochlear hair cells precedes hearing impairment during chronic treatment. Audiology 32: 78-87.
- Stavropoulos, A., Kostopoulos, L., Mardas, N., Nyengaard, J.R. and Karring, T. 2003. Gentamicin used as an adjunct to GTR. J. Clin. Periodontol. 30: 455-462.
- Weichgrebe, D., Danilova, E., Rosenwinkel, K.H., Vedenjapin, A.A. and Baturova, M. 2004. Electrochemical oxidation of drug residues in water by the example of tetracycline, Gentamicin and aspirin. Water Sci. Technol. 49: 201-206.
- Ito, Y., Kusawake, T., Ishida, M., Tawa, R., Shibata, N. and Takada, K. 2005.
  Oral solid Gentamicin preparation using emulsifier and adsorbent. J.
  Control. Release 105: 23-31.
- Panidis, D., Markantonis, S.L., Boutzouka, E., Karatzas, S. and Baltopoulos, G. 2005. Penetration of Gentamicin into the alveolar lining fluid of critically ill patients with ventilator-associated pneumonia. Chest 128: 545-552.
- 7. van der Harst, M.R., Bull, S., Laffont, C.M. and Klein, W.R. 2005. Gentamicin nephrotoxicity—a comparison of *in vitro* findings with *in vivo* experiments in equines. Vet. Res. Commun. 29: 247-261.
- Kennedy, J.M. and van Rij, A.M. 2006. Drug absorption from the small intestine in immediate postoperative patients. Br. J. Anaesth. 97: 171-180.
- 9. Lecaroz, C., Gamazo, C. and Blanco-Prieto, M.J. 2006. Nanocarriers with Gentamicin to treat intracellular pathogens. J. Nanosci. Nanotechnol. 6: 3296-3302.

## **SOURCE**

Gentamicin (102) is a mouse monoclonal antibody raised against full length Gentamicin.

## **RESEARCH USE**

For research use only, not for use in diagnostic procedures.

#### **PRODUCT**

Each vial contains 100  $\mu g \; lg G_{2a}$  in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## **APPLICATIONS**

Gentamicin (102) is recommended for detection of Gentamicin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

#### **STORAGE**

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## **PROTOCOLS**

See our web site at www.scbt.com for detailed protocols and support products.

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3800 fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com