

Gentamicin (101): sc-57741

BACKGROUND

Gentamicin is an aminoglycoside antibiotic obtained 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

1. Ozker, K., and Urganciolu, I. 1981. 99mTc-Gentamicin: chemical and biological evaluation. *Eur. J. Nucl. Med.* 6: 173-176.
2. Hiel, H., Erre, J.P., Aurousseau, C., Bouali, R., Dulon, D. and Aran, J. 1993. Gentamicin uptake by cochlear hair cells precedes hearing impairment during chronic treatment. *Audiology* 32: 78-87.
3. 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.
4. 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.
5. 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.
6. 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.
8. 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 (101) is a mouse monoclonal antibody raised against Gentamicin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Gentamicin (101) 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 or our catalog for detailed protocols and support products.