

Antifungal Effects of Colloidally Stabilized Gold Nanoparticles: Screening by Microplate Assay

Kamel. A. M. Eid,¹ Heba. F. Salem,² Amina A. F. Zikry,¹ Ali .F. M. El-Sayed,³ Mohammed A. Sharaf^{1,4}

¹Department of Chemistry, Helwan University, Ain Helwan, Helwan 11795, EGYPT ²Department of Pharmaceutics, Faculty of Pharmacy, Beni Souef University, Beni Souef, EGYPT ³Applied Research Sector, Egy-Vac/ VACSERA, Giza, 22311, EGYPT ⁴Currently: Department of Chemistry, The American University in Cairo, New Cairo, Helwan 11835, EGYPT sharafma@aucegypt.edu

Abstract :

Colloidally stabilized gold nanoparticles NPs having sizes in the range of 3-20 nm have been prepared by citrate chemical reduction methods. The gold nanoparticles were characterized employing transmission electron microscopy TEM. The in vitro release kinetics and associated antifungal effects were investigated for *Penicillium*. Micro plate reader analyses were utilized for monitoring the antifungal effects. The results provided strong evidence that could warrant the consideration of gold nanoparticles as antifungal material. Such treatment could circumvent the side and passive immune effects of other antifungal material. Also, the nanoparticles thus prepared have the potential and ability of targeting specific sites. [Kamel. A. M. Eid, Heba. F. Salem, Amina A. F. Zikry, Ali .F. M. El-Sayed, Mohammed A. Sharaf. Antifungal Effects of Colloidally Stabilized Gold Nanoparticles: Screening by Microplate Assay. *Nature and Science* 2011;9(2):29-33]. (ISSN: 1545-0740). <http://www.sciencepub.net>.

Key Word :

gold nanoparticles; colloidally stabilized; antifungal; microplate assay; release kinetics

Volume 9, Number 2, February 2011 , ISSN 1545-0740