

## عنوان مقاله:

Neuronal toxicity of biopolymer-template synthesized ZnO nanoparticles

## محل انتشار:

مجله علوم نانو، دوره 1، شماره 2 (سال: 1393)

تعداد صفحات اصل مقاله: 6

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## خلاصه مقاله:

Objective(s): A simple and green method was developed for preparing zinc oxide nanoparticles (ZnO-NPs) in aqueous starch solutions. Starch was used as a stabilizer to control of the mobility of zinc cations and then control growth of ZnO-NPs prepared via a sol-gel method. Because of the special structure of the starch, it permits termination of the particle growth. Materials and Methods: The dried gel was calcined at different temperatures of 400, 500, 600, and 700 °C. The prepared ZnO-NPs were characterized by different techniques such as X-ray diffraction analysis (XRD), transmittance electron microscopy (TEM), and UV-Vis absorption. Results: The XRD results displayed hexagonal (wurtzite) crystalline structure for prepared ZnO nanoparticles with mean sizes below than 50 nm. In vitro cytotoxicity studies on neuro2A cells showed a dose dependent toxicity with non-toxic effect of concentration below 6 µg/mL. Discussion: The results showed that starch is an eco-friendly material that can be used as a stabilizing agent in the sol-gel technique for preparing of ZnO-NPs in a large scale.

## کلمات کلیدی:

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/893541>

