



## In Vitro Photothermal Destruction of Cancer Cells Using Gold Nanoparticles

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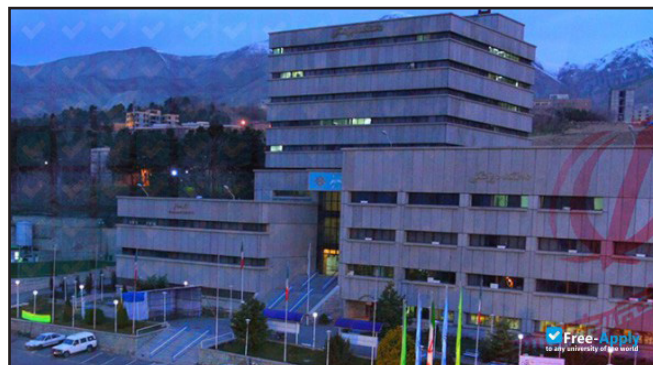
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### Abstract:

Photothermal therapy (PTT), in which nanoparticles embedded within tumors generate heat in response to exogenously applied laser light, has been well documented as an independent strategy for highly selective cancer treatment. Gold-based nanoparticles are the main mediators of PTT because they offer: biocompatibility, small diameters that enable tumor penetration upon systemic delivery, efficient light-to-heat conversion, and the ability to be tuned to absorb near-infrared light, which penetrates tissue more deeply than other wavelengths of light. All together, these benefits can enhance the therapeutic success of both PTT and the secondary treatment while lowering the required doses of the individual agents, leading to fewer off-target effects. Given the benefits of combining gold nanoparticle-mediated PTT with other treatment strategies, many exciting opportunities for multimodal cancer treatment are emerging that will ultimately lead to improved patient outcomes.

### Biography:

She is a professor of Shahid Beheshti University of Medical Sciences, Iran.



### Publication of speakers:

- Method for the synthesis of metallic nano products, J Ghanavi, M Mostafavi, Z Ghanavi
- Neighborhood matrix: A new idea in matching of two dimensional gel images, B Alizadeh Savareh, A Bashiri, M Mostafavi
- Method for producing rod-shaped and branched metallic nano-structures by polyol compounds, G Jalaledin, M Mehrnaz

Cancer Research Webinar, October 10, 2020, Paris, France

**Citation:** Mehrnaz Mostafavi, In Vitro Photothermal Destruction of Cancer Cells Using Gold Nanoparticles, October 10, 2020, Paris, France