

# Efficient delivery of an anti-cancer drug using gelatin nanoparticles

A Thesis submitted By

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### **Dedication**

# I would like to gratefully dedicate this thesis to the soul of our mentor Professor/ Abd El- Hamid El- Shamy

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#### **List of Abbreviations**

Abbreviation Meaning

A-546 Human lung cancer cell line

**A-GNPs/P188** Poloxamer-coated allicin loaded gelatin nanoparticles

**ANOVA** Analysis of variance

**API** Active pharmaceutical ingredient

**ASGPR** Asialoglycoprotein receptor

**cGMP** Current good manufacturing procedures

**CLT** Cross-linking time

**CNTs** Carbon nanotubes

**DDS** Drug delivery system

**DLS** Dynamic light scattering

**DMSO** Dimethyl sulfoxide

**DOD** D-optimal design

**DoE** Design of experiment

**EDC** 1-Ethyl-3-[3-dimethylaminopropyl] carbodiimide hydrochloride

**%EE** Entrapment efficiency percentage

**EGFR** Epidermal growth factor receptor

**EPR** Enhanced permeability and retention

**FDA** Food and Drug Administration

**G1** First generation

G2 Second generation

G3 Third generation

**GA** Glutaraldehyde

**GNPs** Gelatin nanoparticles