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**FACILE CHEMICAL SYNTHESIS AND CHARACTERIZATION OF
POLYESTER/MAGNESIUM OXIDE NANOPARTICLES FOR BIOMEDICAL
APPLICATION**

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Magnesium, a naturally occurring mineral, is very important for the normal functioning of the body. However, certain situations such as poor diet, alcoholism, poorly controlled diabetes, etc., cause body to lose magnesium faster than it can be replaced from diet. Magnesium also plays a role in body's detoxification processes and therefore is important for preventing damage from environmental chemicals, heavy metals and other toxins. Polyesters like polylactide (PLA), polyglycolide (PGA) or poly(lactide-co-glycolide) (PLGA) are used for the controlled delivery of several classes of medicaments like anticancer agents, immunomodulatory drugs, hormones, vitamins, antibodies, etc. Magnesium oxide nanoparticles (MgO) have been synthesized by chemical reduction method and additionally encapsulated within spherical polyester poly(lactide-co-glycolide) (PLGA) particles (PLGA/MgO). Synthesized particles were characterized by X-ray diffraction (XRD), scanning electron microscopy (SEM), energy dispersive X-ray spectroscopy (EDS) and transmission electron microscopy (TEM).