TOXICITY REDUCTION OF NANO-AG-PVP WITH BIOMATERIAL

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Abstract: This study presents a method for the reduction of ecotoxicity of Ag-polyvinylpirrolidone (Ag-PVP) from environmentally friendly biologenic substance hydra protein and hydra peptide. Physicochemical properties of Ag-PVP were analyzed by FE-TEM,X-RD and HR-Raman. Ecotoxicitywere exposed to Ag-PVP (1 mg / L), Ag-PVP + hydra protein and Ag-PVP + hydra peptide in zebrafish embryos. The toxicity was investigated with hatching rate and abnormal rate. The hydra proteins and peptides extracted from *hydra magnipapillata* decreased the toxicity of Ag-PVP. In addition, mRNA sequencing analysis confirmed the gene mutation by Ag-PVP.

Keywords: Nano-material, Ag-PVP, hydra protein, reduction toxicities, micro array.