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Series - 64

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Delineating the metal ornamented nanocomposite and role of transcriptional pathway during *in vitro* wound healing

Metal refined nanomedical in regenerative medicine is gaining popular trend and there is an continuous demand for development of tissue regeneration. Unfortunately, no or very little research being carried out on antioxidant doped nanometals and its interaction on the signaling axis during the bio-interface action. Herein, cytotoxicity, metal decay, nanoconjugate stability, size expansion, antioxidant assay and signal transduction array of C phycocyanin primed silver nano hybrids (AgCPCNPs) were validated towards *in vitro* wound healing phenomenon. Physiologically relevant ionic solutions did not exhibit the adverse effect on the nanoconjugate stability however, acidic, alkali and ethanol solution completely denatured the AgCPCNP conjugates. Signal transduction RT-PCR array demonstrated the NF κ B and PI3K pathway associated genes significantly ($p<0.5\%$) fluctuated upon AgCPCNPs than AgHP group. Specific inhibitor of NF κ B (NFI) and PI3K (LY294002) pathways confirmed the involvement of NF κ B and PI3K signaling axis. *In vitro* wound healing assay demonstrated that NF κ B pathway plays the prime role in the fibroblast cell migration during process. In conclusion, the present investigation revealed surface functionalization by anti-oxidant biogent C-phycocyanin suppresses the AgHP mediated stress responses and associated signaling axis in fibroblast cell during the cell migration scenario in *in vitro* wound healing model.



**THANK YOU FOR YOUR
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