OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Conference on
Pharmaceutics & Novel Drug Delivery Systems

20-22 February 2012 San Francisco Airport Marriott Waterfront, USA

TITLE

In vitro Antitumour Activity of Novel Metal Complexes of 5-amino-1,10-phenanthroline and 1,10-phenanthroline

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Novel metal complexes: $Sr(5\text{-}NH_2\text{-}phen)_4(NO_3)(OH)(H_2O)_2$ (1) (synthesized via a static self-assembly process) and $Sn(phen)(NO_3)(OH)(H_2O)$ (2), $Sn(5\text{-}NH_2\text{-}phen)(OH)(Cl)(H_2O)$ (3), $Pb(5\text{-}NH_2\text{-}phen)(NO_3)_2(H_2O)$ (4) (obtained via metal competitive reactions under mild conditions) were reported. The coordination compounds were characterized by elemental analysis, FTIR-spectroscopy and FAB-mass spectrometry. Their cytotoxicity was measured towards human tumour (MDA-MB-231, HT-29, HeLa, HepG2) and non-tumour diploid (Lep-3) cell lines. The best pronounced cytotoxic effect on all cancer lines showed 1 and 4 at their high amounts as well as 1 at its lower ones ($\leq 4.10^{-2}$ mg). Therefore, strontium complex of 5-amino-o-phenanthroline (1) exhibited the widest antitumour spectrum activity, having no toxicity to non-tumour cells at quantities $\leq 4.10^{-2}$ mg.