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Transition metal complexes/organometallic compounds as anticancer/anti HIV drugs in pharmaceutical industry



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Cancer is a dreadful disease and any practical solution in combating this disease is of paramount importance to public health. Cancer patients have been burdened by drug induced toxic side effects, and no turned to seek help from the complementary and alternative medicine hoping for a better cure. Research on platinum-based drugs and non-platinum-based drugs is a multi-million-dollar industry in USA and there is every need to produce safe drugs for the cure of this monstrous disease. Flavonoids have a long history of use in traditional medicines in many cultures. The phytochemical, curcumin is one of the major dietary flavonoid, belonging to a group of flavonol, Curcumin is a natural polyphenol. It is highly potential molecule capable of preventing and treating various cancers. Various dietary chemo preventive agents, turmeric powder or its extract are broadly used as therapeutic preparations in Indian System of medicine. We provide a summarized synthesis and structural determination of Curcumin Oxime, Curcumin Thiosemicarbazones derivative of Gold (III) complex. The use of these analogs for prevention of cancer tumor progression and treatments of human malignancies. A pharmacologic agent for treating and/or preventing cancer, among other diseases and conditions, and particularly breast, prostate, and pancreatic cancer, in humans and animals. The novel pharmacologic agent is an isoflavonoid or isoflavonoid mimetic covalently attached to a cytotoxic pharmacophore that, preferably has the ability to conjugate with a metal salt to form a more potent metal complex, particularly an Au (III) complex and other complexes of Platinum, Palladium, Ruthenium, Copper etc.

Biography

Prakash Mms Kinthada is a Professor in the Department of Chemistry at Sri Vidyanyikethan Engineering College, Jawaharlal Nehru Technological University, Anantapur, Tirupati, India. Earlier, he was NIH Visiting Fellow at Karmanos Cancer Research Institute, Wayne State University School of Medicine. He was also a Royal Society Visiting Scientist in the Inorganic Chemistry Laboratories at the University of Oxford, UK, working on transition metal complexes as anticancer drugs. He has published 33 international publications and 31 international conference presentations including American Chemical Society conferences.

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