

Transition Metal Complexes/Organometallic Compounds As Anticancer/ Anti Hiv Drugs Or In Pharmaceutical Industry

Dr. Prakash Kinthada

Sri Vidyanikethan Engineering College, India, Email: pk6030882@gmail.com

Abstract

Cancer is a dreadful disease and any practical solution in combating this disease is of paramount importance to public health. Cancer patients have 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 curcuminoxime, curcuminthiosemicarbazone 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.

Introduction:

Cancer could be a dreadful unwellness and any sensible answer in combating this unwellness is of dominant importance to public health. Cancer patients have burdened by drug evoked nephrotoxic aspect effects, and no turned to hunt facilitate from the complementary and medicine hoping for a more robust cure. analysis on noble metal based mostly medication and Non noble metal based medication could be a Multi-Million dollar business in USA and there's each got to manufacture safe medication for the cure of this monstrous unwellness. Flavonoids have a protracted history of use in ancient medicines in several cultures. The phytochemical, curcumin is one among the main dietary flavonoid, happiness to a bunch of flavonol, Curcumin could be a natural polyphenol. it's extremely potential molecule capable of preventing and treating varied cancers. varied dietary chemo preventive agents, turmeric powder or its extract ar generally used as therapeutic preparations in Indian System of drugs. we offer a summarized synthesis and structural determination of Curcumin organic compound, CurcuminThiosemicarbazone by-product of Gold (III)

advanced. the employment of those analogs for interference of cancer tumour progression and coverings of human malignancies, A pharacologic agent for treating and/or preventing cancer, among alternative diseases and conditions and significantly breast, prostate and carcinoma, in humans and animals. The novel medicine agent is associate degree isoflavonoid or isoflavonoid mimetic covalently connected to a cytotoxic pharmacophore that, ideally has the flexibility to conjugate with a metal salt to make a harder metal advanced, significantly a Au (III) advanced and alternative complexes of noble metal, Palladium, Ruthenium, Copper etc. My speak would chiefly cover completely different Transition Metal Complexes/Organometallic Compounds that ar presently used as medication, particularly metastatic tumor and Anti-HIV medication, except anti-inflammatory drug, Antimicrobial, medication and diseases like inflammatory disease and Parkinson's unwellness etc. The speak would chiefly specialize in the employment of healthful Chemistry and its application to Drug style and Development in Pharmaceutical business, particularly Transition Metal Complexes and Organometallic Compounds viz. Gold, Platinum, Pd and metallic element except Copper, Cobalt, Iron, Nickel, Zinc, atomic number 48 etc. the most stress of my speak would air completely different category of Ligands, their Schiff's Bases and Transition Metal Complexes particularly Au, Pt, Pd and Ru, with the most aim of coming up with, developing terribly novel little molecules, as attainable and intensely potential candidates as Anti-cancer and Anti-HIV medication. The speak would offer an outline of current programs being undertaken in our laboratories, particularly centered on the event of potent ligands capable of recognizing Binding sites and numerous ways used by my cluster for elucidation of Anti-Cancer and Anti-HIV drug ends up in circumvent the matter caused by Cis-Platin. we've got synthesized and characterised many phytochemicals from ancient healthful Plants and isolated some phytochemicals and created the corresponding Oximes, Thiosemicarbazones and substituted thiosemicarbazones as ligands and synthesized, characterised, structurally elucidated their Transition Metal Complexes particularly with Gold, Platinum, Palladium, Ruthenium, Copper etc. and studied their metastatic tumor activity, enzyme activity etc and tested their potential as metastatic tumor medication. the most aim of our extensive/preclinical Pharmaceutical development program is to analyze the employment of those very novel little molecules-metal complexes/compounds of phytochemicals, flavanoids etc., that have terribly attention-grabbing structural options and properties and thence ar wonderful candidates as Anti-Cancer and Anti-HIV medication. the most aim of our analysis is style, Development and Synthesis of Transition Metal Complexes/Organometallic Compounds that might definitely facilitate to bring this force of nature from Bench to side and enhance cancer killing with less nephrotoxic effects and would definitely cause initiation of clinical trials. Inorganic therapy has been significantly boosted in recent years by the invention and exploitation of anti-tumor compounds

supported noble metal. The active entities are complexes of noble metal that, once metabolized, bind to G residues of deoxyribonucleic acid and inhibit the ruinous replication characteristic of tumour growth complexes show similar chemistry and medical specialty activity to cisplatin; it's currently supposed to explore a bigger kind of gold complexes. My personal views are in increasing this space of co-ordination chemistry getting and screening materials with increased biological activity and examining the organ distribution following administration of the compounds. The results would definitely be of potential essential scientific, medical and industrial significance. Cisplatin and its analogues are currently the idea of a multimillion-dollar business and produce profit to thousands of cancer patients; gold compounds might prove equally helpful. Gold Analogues of Cisplatin the results are of potential scientific, medical and industrial significance. Cisplatin and its analogues are currently the idea of a multimillion-dollar business and produce profit to thousands of cancer patients; gold compounds might prove equally helpful. The compounds mentioned on top of are the primary gold(III) complexes to have been strictly shown to own substantial and helpful biological activity. It's so necessary to explore the rational synthesis of further materials of this kind, to screen their medical specialty properties and to analyze the relevant chemistry and organic chemistry. Hence many complexes of Gold, Platinum, Pd and metallic element would be synthesized from varied Schiff's bases of Substituted Isatin, Substituted Indoles, Chromones and substituted chromones and alternative very novel ligands and their metastatic tumor and Anti-HIV studies would be performed. New metastatic tumor medication would be discovered and if some vital medication result, they'd be proprietary. Synthesis and Biological Evolution of Novel Analogues of Flavonoids and Their Metal complexes: Mechanism of evoked caspase-mediated cell death in Human neoplastic cell Lines: duct gland, Breast and adenocarcinoma.

Conclusion:

Absorption and metabolism of quercetin and its derivatives has attracted a lot of attention in reference to their pro-healthy worth. The entire flavonoid in take from dietary sources is calculable to be from many hundred milligrams to 1g per day. Quercetin derivatives, glycosides particularly, represent a substantial part of these food constituents. It's public knowledge that having been eaten each quercetin derivatives endure several metabolic conversions and seem in body tissues. Associate degree investigation on the bio convenience and metabolism of quercetin derivatives centered totally on glycosides that was predominates in diet