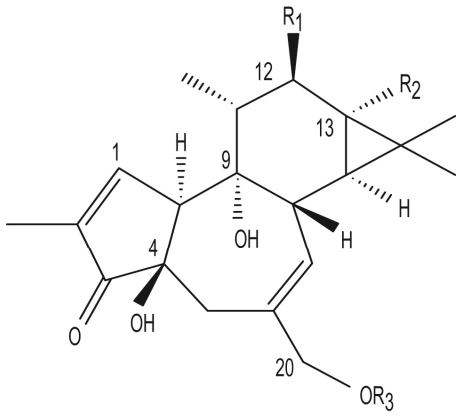
CLAIMS

1. Use of a phorbol ester compound of Formula I, or a pharmaceutically-acceptable salt, enantiomer, solvate, hydrate, polymorph or prodrug thereof



FORMULA I

wherein R_1 and R_2 are selected from the group consisting of hydrogen, hydroxyl, —O—C(=O)-alkyl, —O—C(=O)-lower alkenyl, —O—C(=O)-phenyl and —O—C(=O)-benzyl, and R_3 is selected from hydrogen or —C(=O)-lower alkyl, in the manufacture of a medicament for preventing or treating one or more side effects of radiation due to radiation.

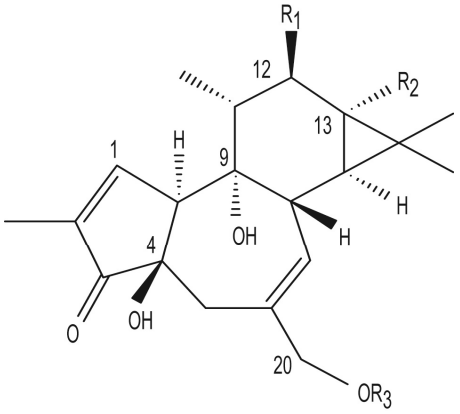
2. The use according to claim 1, wherein the medicament is to be administered with at least one secondary or adjunctive therapeutic agent that is effective in a combinatorial formulation or coordinate treatment regimen with said phorbol ester or derivative compound of Formula I to prevent or treat one or more side effects of radiation to said mammalian subject.

3. The use according to claim 2, wherein the at least one secondary or adjunctive therapeutic agent is to be administered to said mammalian subject in a coordinate administration protocol, simultaneously with, prior to, or after, administration of said phorbol ester compound of Formula I to said mammalian subject.

4. The use according to claim 2 or 3, wherein the at least one secondary or adjunctive therapeutic agent is selected from the group consisting of steroids, amifostine, chlorhexidine, benzydamine, sucralfate, KGF, palifermin, Cu/Zn superoxide dismutase, Interleukin 11, or prostaglandins.

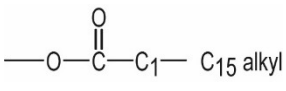
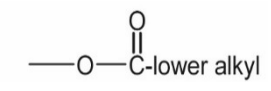
5. The use according to any one of the preceding claims, wherein the one or more side effects of radiation are moist desquamation, soreness, diarrhea, nausea, vomiting, appetite loss, constipation, itchy skin, peeling, mouth and throat sores, edema, infertility, fibrosis, epilation, or mucosal dryness.

6. Use of a phorbol ester compound of Formula I, or a pharmaceutically-acceptable salt, enantiomer, solvate, hydrate, polymorph or prodrug thereof



FORMULA I

wherein R_1 and R_2 are selected from the group consisting of hydrogen, hydroxyl, —O—C(=O)-alkyl, —O—C(=O)-lower alkenyl, —O—C(=O)-phenyl and —O—C(=O)-benzyl, and R_3 is selected from hydrogen or —C(=O)-lower alkyl, in the manufacture of a medicament for preventing or treating neutropenia, leukopenia, and lymphopenia in a mammalian subject; wherein said phorbol ester compound of Formula I is to be administered before and after a chemotherapeutic treatment in multiple doses at least twice per week.

7. The use according to any one of the preceding claims, wherein R_1 or R_2 is , the remaining R_1 or R_2 is , and R_3 is hydrogen.

8. The use according to any one of the preceding claims, wherein the phorbol ester compound of Formula I is phorbol 13-butyrate, phorbol 12-decanoate, phorbol 13-decanoate, phorbol 12,13-diacetate, phorbol 13,20-diacetate, phorbol 12,13-dibenzoate, phorbol 12,13-dibutyrate, phorbol 12,13-didecanoate, phorbol 12,13-dihexanoate, phorbol 12,13-dipropionate, phorbol 12-myristate, phorbol 13-myristate, phorbol 12,13,20-triacetate, 12-deoxyphorbol 13-angelate, 12-deoxyphorbol 13-angelate 20-acetate, 12-deoxyphorbol 13-isobutyrate, 12-deoxyphorbol 13-isobutyrate-20-acetate, 12-deoxyphorbol 13-phenylacetate, 12-deoxyphorbol 13-phenylacetate 20-acetate, 12-deoxyphorbol 13-tetradecanoate, phorbol 12-tigliate 13-decanoate, 12-deoxyphorbol 13-acetate, phorbol 12-acetate, or phorbol 13-acetate.

9. The use according to any one of the preceding claims, wherein the phorbol ester compound of Formula I is 12-O-tetradecanoylphobol-13-acetate.

10. The use according to any one of claims 1 to 6, wherein R_3 is –C(O)methyl.

11. The use according to any one of the preceding claims, wherein the medicament comprises between about 10 µg and about 1500 µg of said phorbol ester compound of Formula I.

12. The use according to any one of the preceding claims, wherein the medicament comprises between about 125 µg to about 500 µg of said phorbol ester compound of Formula I.