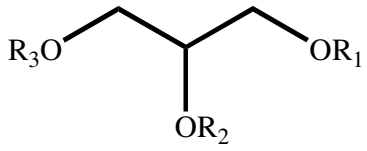
CLAIMS

What is claimed is:

1. Use of a pharmaceutical composition in the manufacture of a medicament for increasing survival of breast cancer and/or breast cancer metastasis, wherein the pharmaceutical composition comprises an effective amount of *Crassocephalum rabens* extract or a compound represented by Formula I or a pharmaceutically acceptable derivative thereof;



Formula I

wherein R_1 and R_2, independently, is $C(O)R_a$ in which R_a is C_{15-17} alkyl having 0 to 3 double bonds, and R_3 is monogalactosyl or digalactosyl,
and optionally a pharmaceutically acceptable carrier or excipient.

2. The use according to claim 1, wherein the *Crassocephalum rabens* extract is an alcohol extract.

3. The use according to claim 2, wherein the alcohol is C1 to C4 alcohol.

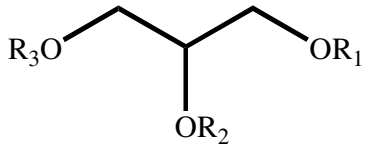
4. The use according to claim 1, wherein the compound represented by Formula I is selected from the group consisting of 1,2-di-*O*-α-linolenoyl-3-*O*-β-galactopyranosyl-*sn*-glycerol (dLGG), 1(2)-*O*-α-linolenoyl-2(1)-*O*-α-linoleoyl 3-*O*-β-galactopyranosyl-s*n*-glycerol (18:3/18:2), 1(2)-*O*-α-linolenoyl-2(1)-*O*-α-palmitoyl 3-*O*-β-galactopyranosyl-*sn*-glycerol (18:3/16:0), 1(2)-*O*-α-linolenoyl-2(1)-*O*-α-oleoyl 3-*O*-β-galactopyranosyl-*sn*-glycerol (18:3/18:1) and 1,2-di-*O*-α-linolenoyl-3-*O*-(6-*O*-α-galactopyranosyl-β-galactopyranosyl)-*sn*-glycerol (DGDG).

5. The use according to claim 1, wherein the breast cancer comprises breast cancer cells selected from the group consisting of ER+ breast cancer cells, Her2+ breast cancer cells and ER-, PR- and Her2- breast cancer cells.

6. The use according to claim 1, which is for increasing survival of breast cancer metastasis to the lung, liver or brain.

7. The use according to claim 1, wherein the medicament further comprises doxorubicin, epirubicin, bevacizumab, gemcitabine, 5-fluorouracil, capecitabine, cyclophosphamide, carboplatin, cisplatin, oxaliplatin, or vinblastine.

8. Use of a pharmaceutical composition in the manufacture of a medicament for attenuating the side effects of doxorubicin, epirubicin, bevacizumab, gemcitabine, 5-fluorouracil, capecitabine, cyclophosphamide, carboplatin, cisplatin, oxaliplatin, or vinblastine, wherein the pharmaceutical composition comprises an effective amount of *Crassocephalum rabens* extract or a compound represented by Formula I or a pharmaceutically acceptable derivative thereof;



Formula I

wherein R_1 and R_2, independently, is $C(O)R_a$ in which R_a is C_{15-17} alkyl having 0 to 3 double bonds, and R_3 is monogalactosyl or digalactosyl,
and optionally a pharmaceutically acceptable carrier or excipient.

9. The use according to claim 8, wherein the side effects are selected from the group consisting of body weight loss, compromised immune response, cachexia, fatigue, cardiomyopathy, and COX-2 overexpression.

10. The use according to claim 8, wherein the *Crassocephalum rabens* extract is an alcohol extract.

11. The use according to claim 10, wherein the alcohol is C1 to C4 alcohol.

12. The use according to claim 8, wherein the compound represented by Formula I is selected from the group consisting of 1,2-di-*O*-α-linolenoyl-3-*O*-β-galactopyranosyl-*sn*-glycerol (dLGG), 1(2)-*O*-α-linolenoyl-2(1)-*O*-α-linoleoyl 3-*O*-β-galactopyranosyl-s*n*-glycerol

(18:3/18:2), 1(2)-*O*-α-linolenoyl-2(1)-*O*-α-palmitoyl 3-*O*-β-galactopyranosyl-*sn*-glycerol (18:3/16:0), 1(2)-*O*-α-linolenoyl-2(1)-*O*-α-oleoyl 3-*O*-β-galactopyranosyl-*sn*-glycerol (18:3/18:1) and 1,2-di-*O*-α-linolenoyl-3-*O*-(6-*O*-α-galactopyranosyl-β-galactopyranosyl)-*sn*-glycerol (DGDG).