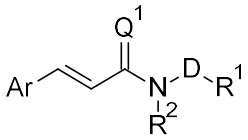
Claims:

Claim 1. Use of a piperlongumine compound in the manufacture of the composition comprising the piperlongumine compound encapsulated in a hydrogel for use in treating glioblastoma characterized by transient receptor potential vanilloid 2 channel (TRPV2) expression, wherein the composition is to be administered to a patient in need thereof as a post-surgical implant, and wherein the piperlongumine compound is a reversible antagonist of TRPV2 and has the formula 1:



where Q^1 is O or S,

-Ar is an optionally substituted phenyl group,

-D- is selected from -C(O)-, -C(S)-, -CH(OH)- and -CH(SH)-, and

$-R^1$ and $-R^2$, together with -N-D- to which they are attached, form an optionally substituted heterocyclic ring, or $-R^1$ and $-R^2$ are each independently selected from hydrogen and optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl and aryl,

and salts or solvates thereof.

Claim 2. Use according to claim 1, wherein Q^1 is O.

Claim 3. Use according to claim 1 or claim 2, wherein -D- is -C(O)- or -C(S)-, such as -C(O)-.

Claim 4. Use according to any one of claims 1 to 3, wherein $-R^1$ and $-R^2$, together with -N-D- to which they are attached, form an optionally substituted heterocyclic ring.

Claim 5. Use according to claim 4, wherein the heterocyclic ring is partially unsaturated.

Claim 6. Use according to claim 5, wherein -D- is -C(O)- or -C(S)-, and the unsaturation is conjugated with the -C(O)- or -C(S)-.

Claim 7. Use according to any one of claims 4 to 6, wherein the heterocyclic ring is single ring, such as a 4- to 9-membered ring, such as a 4- to 6-membered ring, such as 5- or 6-membered ring, such as a 6-membered ring.

Claim 8. Use according to any one of claims 4 to 7, wherein $-R^1$ and $-R^2$, together with -N-D- to which they are attached, form an α,β-unsaturated δ-lactam, such as wherein $-R^1$ and $-R^2$, together with -N-D- to which they are attached is 5,6-dihydropyridin-2-one-1-yl.

Claim 9. Use according to any one of claims 1 to 8, wherein the piperlongumine compound is

piperlongumine.

Claim 10. Use according to any one of claims 1 to 9 wherein the patient is previously identified as having or at risk of a glioblastoma characterized by TRPV2 expression.

Claim 11. Use according to any one of claims 1 to 10 wherein the glioblastoma is primary or recurrent.

Claim 12. Use according to any one of claims 1 to 11 wherein the piperlongumine compound is to be administered in combination with a second therapeutic agent.

Claim 13. Use according to claim 12 wherein the second therapeutic agent is an anti-cancer compound.

Claim 14. Use according to claim 13 wherein the anti-cancer compound is selected from an anthracycline, cytarabine, vincristine, L-asparaginase, cyclophosphamide, fibromun, dacarbazine, methotrexate and 6-mercaptopurine, chlorambucil, an alkylating agent, cyclophosphamide, corticosteroids, imatinib, cladribine, pentostatin, rituximab, chlorambucil, a taxane, and doxorubicin.

Claim 15. Use according to any one of claims 1 to 14 wherein the piperlongumine compound is to be administered in combination with irradiation.

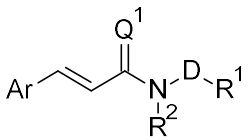
Claim 16. Use according to any one of claims 1 to 15 wherein the hydrogel is cyclodextrin.

Claim 17. An *in vitro* method of selecting a cancer patient for treatment with a piperlongumine compound comprising

determining the presence of TRPV2 expression in the glioblastoma cells obtained from a cancer patient,

wherein a glioblastoma patient with cancer cells that express TRPV2 is suitable for treatment with the piperlongumine compound,

wherein the piperlongumine compound is a reversible antagonist of TRPV2 and has the formula 1:



where Q^1 is O or S,

-Ar is an optionally substituted aryl group,

-D- is selected from -C(O)-, -C(S)-, -CH(OH)- and -CH(SH)-, and

$-R^1$ and $-R^2$, together with -N-D- to which they are attached, form an optionally substituted

heterocyclic ring, or -R^1 and -R^2 are each independently selected from hydrogen and optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl and aryl,

or salts or solvates thereof.

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