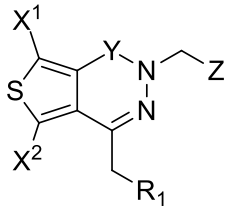
Claims:

1. Use of an aldose reductase inhibitor in the manufacture of a medicament for treating PMM2-CDG in a subject, wherein the aldose reductase inhibitor is a compound of Formula (III):



(III),

or a salt thereof, wherein,

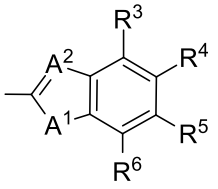
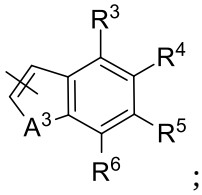
R^1 is CO_2R^2;

R^2 is H, (C_1-C_6)-alkyl, (C_1-C_6)-hydroxyalkyl, or (C_1-C_6)-aminoalkyl;

X^1 is H or halogen;

X^2 is H or halogen;

Y is a bond, C=O, C=S, C=NH, or C=N(C_1-C_4)-alkyl;

Z is  or ;

A^1 is NR^7, O, S, or CH_2;

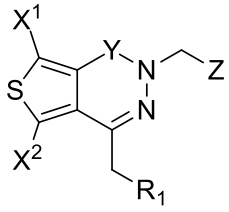
A^2 is N or CH;

A^3 is NR^7, O, or S;

R^3 to R^6 are independently hydrogen, halogen, cyano, acyl, haloalkyl, haloalkoxy, haloalkylthio, trifluoroacetyl, (C_1-C_4)-alkyl, (C_1-C_4)-alkoxy, (C_1-C_4)-alkylthio, (C_1-C_4)-alkylsulfinyl, or (C_1-C_4)-alkylsulfonyl; and

R^7 is hydrogen, (C_1-C_4)-alkyl, or C(O)O-(C_1-C_4)-alkyl.

2. Use of an aldose reductase inhibitor in the manufacture of a medicament for increasing PMM2 enzymatic activity in a subject, wherein the aldose reductase inhibitor is a compound of Formula (III):


(III),

or a salt thereof, wherein,

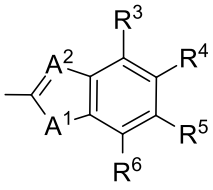
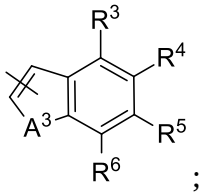
R^1 is CO_2R^2;

R^2 is H, (C_1-C_6)-alkyl, (C_1-C_6)-hydroxyalkyl, or (C_1-C_6)-aminoalkyl;

X^1 is H or halogen;

X^2 is H or halogen;

Y is a bond, C=O, C=S, C=NH, or C=N(C_1-C_4)-alkyl;

Z is  or ;

A^1 is NR^7, O, S, or CH_2;

A^2 is N or CH;

A^3 is NR^7, O, or S;

R^3 to R^6 are independently hydrogen, halogen, cyano, acyl, haloalkyl, haloalkoxy, haloalkylthio, trifluoroacetyl, (C_1-C_4)-alkyl, (C_1-C_4)-alkoxy, (C_1-C_4)-alkylthio, (C_1-C_4)-alkylsulfinyl, or (C_1-C_4)-alkylsulfonyl; and

R^7 is hydrogen, (C_1-C_4)-alkyl, or C(O)O-(C_1-C_4)-alkyl.

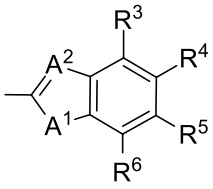
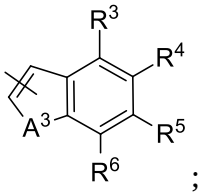
3. The use of claim 1 or 2, wherein

R^2 is H or (C_1-C_6)-alkyl;

X^1 is H;

X^2 is H;

Y is C=O;

Z is  or ;

A^1 is NR^7, O, S, or CH_2;

A^2 is N or CH;

A^3 is NR^7, O, or S;

R^3 through R^6 are independently hydrogen, halogen, cyano, acyl, haloalkyl, haloalkoxy, haloalkylthio, trifluoroacetyl, $(C_1\text{-}C_4)$-alkyl, $(C_1\text{-}C_4)$-alkoxy, $(C_1\text{-}C_4)$-alkylthio, $(C_1\text{-}C_4)$-alkylsulfinyl, or $(C_1\text{-}C_4)$-alkylsulfonyl; and

R^7 is hydrogen, $(C_1\text{-}C_4)$-alkyl, or C(O)O-$(C_1\text{-}C_4)$-alkyl.

4. The use of any one of claims 1-3, wherein:

R^2 is H or $(C_1\text{-}C_6)$-alkyl;

Y is C=O;

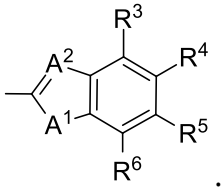
A^1 is NR^7, O, or S;

A^2 is N;

A^3 is O or S;

R^3 through R^6 are independently hydrogen, halogen, cyano, acyl, haloalkyl, haloalkoxy, haloalkylthio, $(C_1\text{-}C_4)$-alkyl, $(C_1\text{-}C_4)$-alkoxy, $(C_1\text{-}C_4)$-alkylthio, $(C_1\text{-}C_4)$-alkylsulfinyl, or $(C_1\text{-}C_4)$-alkylsulfonyl; and

R^7 is hydrogen, $(C_1\text{-}C_4)$-alkyl, or C(O)O-$(C_1\text{-}C_4)$-alkyl.

5. The use of any one of claims 1-4, wherein Z is .

6. The use of any one of claims 1-5, wherein:

R^2 is H or $(C_1\text{-}C_6)$-alkyl;

X^1 is H;

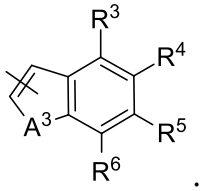
X^2 is H;

Y is C=O;

A^1 is S;

A^2 is N; and

R^3 through R^6 are independently hydrogen, halogen, or haloalkyl.

7. The use of any one of claims 1-4, wherein Z is 

.

8. The use of claim 7, wherein:

R^2 is hydrogen or (C_1-C_6)-alkyl;

Y is C=O;

R^3 through R^6 are independently hydrogen, halogen, cyano, acyl, haloalkyl, haloalkoxy, haloalkylthio, (C_1-C_4)-alkyl, (C_1-C_4)-alkoxy, (C_1-C_4)-alkylthio, (C_1-C_4)-alkylsulfinyl, or (C_1-C_4)-alkylsulfonyl; and

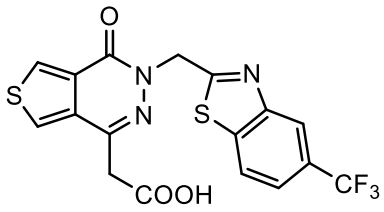
R^7 is hydrogen, (C_1-C_4)-alkyl, or C(O)O-(C_1-C_4)-alkyl.

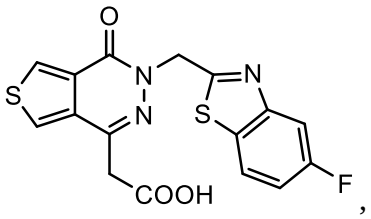
9. The use of any one of claims 1-8, wherein R^3, R^5, and R^6 are each independently hydrogen, and R^4 is hydrogen, halogen, or haloalkyl.

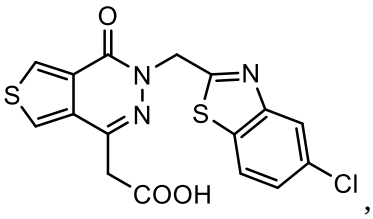
10. The use of any one of claims 1-9, wherein R^3, R^5, and R^6 are each independently hydrogen, and R^4 is haloalkyl.

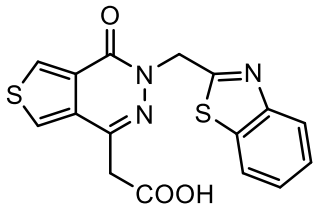
11. The use of any one of claims 1-10, wherein R^4 is trifluoromethyl.

12. The use of any one of claims 1-6, wherein the aldose reductase inhibitor is selected from the group consisting of:



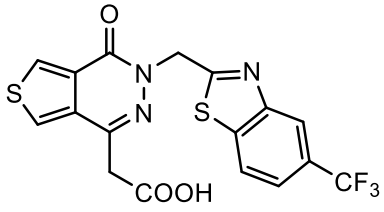
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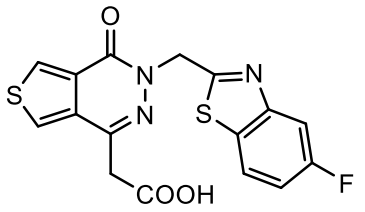
, and salts thereof.

13. The use of any one of claims 1-6 or 12, wherein the aldose reductase inhibitor is



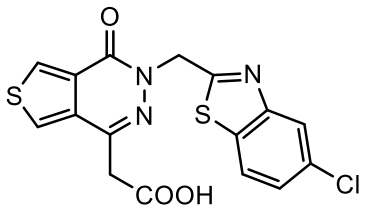
or a salt thereof.

14. The use of any one of claims 1-6 or 12, wherein the aldose reductase inhibitor is



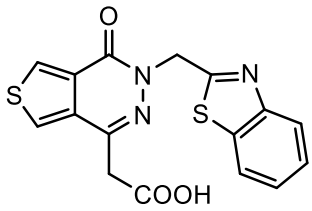
or a salt thereof.

15. The use of any one of claims 1-6 or 12, wherein the aldose reductase inhibitor is



or a salt thereof.

16. The use of any one of claims 1-6 or 12, wherein the aldose reductase inhibitor is



or a salt thereof.

17. The use of any one of claims 1-16, wherein the subject is a human.