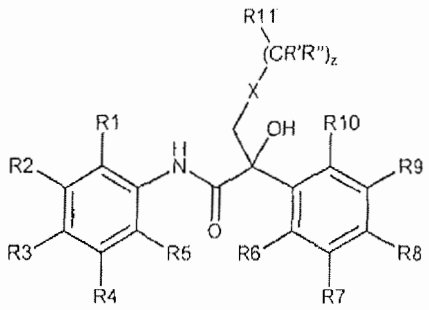
THE CLAIMS DEFININING THE INVENTION ARE AS FOLLOWS:

1. An arylamide derivative having formula (I)



(I)

and stereoisomers and pharmaceutically acceptable salts thereof;

where

R' and R" are each independently selected from the group consisting of H and alkyl;

z is an integer 0 to 3;

R1 is selected from the group consisting of H, halogen, (per)haloalkyl, hydroxy and $(CH_2)_nCHO$, where n is an integer 0 - 6;

R2 is selected from the group consisting of H, alkyl, halogen, trifluoromethyl, (halo)alkyl, hydroxy and $(CH_2)_nCHO$, where n is an integer 0 - 6;

R3 is selected from the group consisting of NO_2, CN, COR, COOH, CONHR, where R is hydrogen or alkyl; halogen and hydroxy;

R4 and R5 are each independently selected from the group consisting of H, alkyl and halogen, or

R4 and R5 form together with the carbon atoms, to which they are attached, a substituted or unsubstituted aliphatic, heteroaliphatic, aromatic or heteroaromatic ring;

R6 - R10 are each independently selected from the group consisting of H, alkyl, halogen, (per)haloalkyl, CN, NO_2, COR, COOH, CONHR, NR_2, $NHCOCH_3$, $NHCOCF_3$, NHCOR, NHCONHR, NHCOOR, OCONHR, CONHR, where R is as defined above; $NHCSCH_3$, alkylthio, alkylsulfinyl and alkylsulfonyl, provided that at least one of R6 - R10 is other than H; or

two adjacent R6 - R10 form with the carbon atoms, to which they are attached, a substituted or unsubstituted aliphatic, heteroaliphatic, aromatic or heteroaromatic ring;

N-[4-cyano-3-(trifluoromethyl)phenyl]-2-(3,4-difluorophenyl)-3-(ethanesulfonyl)-2-hydroxypropanamide;

N-(3-chloro-4-cyanophenyl)-3-(ethanesulfonyl)-2-hydroxy-2-[3-(trifluoromethyl)phenyl]propanamide ;

N-(3-chloro-4-cyanophenyl)-3-{[(4-chlorophenyl)methane]sulfonyl}-2-(3-fluoro-4-methoxyphenyl)-2-hydroxypropanamide;

N-(3-chloro-4-cyanophenyl)-3-[(3-fluorobenzene)sulfonyl]-2-hydroxy-2-[3-(trifluoromethyl)phenyl]propanamide;

N-(3-chloro-4-cyanophenyl)-2-(3,4-difluorophenyl)-3-[(3-fluorobenzene)sulfonyl]-2-hydroxypropanamide;

N-[4-cyano-3-(trifluoromethyl)phenyl]-2-(3,4-difluorophenyl)-3-[(3-fluorobenzene)sulfonyl]-2-hydroxypropanamide;

N-(3-chloro-4-cyanophenyl)-3-{[(4-chlorophenyl)methane]sulfonyl}-2-hydroxy-2-[3-(trifluoromethyl)phenyl]propanamide;

N-(3-chloro-4-cyanophenyl)-3-{[(4-chlorophenyl)methane]sulfonyl}-2-hydroxy-2-[3-(trifluoromethyl)phenyl]propanamide;

N-(3-chloro-4-cyanophenyl)-2-(3,4-difluorophenyl)-3-[(4-fluorobenzene)sulfonyl]-2-hydroxypropanamide;

N-(3-chloro-4-cyanophenyl)-2-(3,4-difluorophenyl)-3-{[(4-fluorophenyl)methane]sulfonyl}-2-hydroxypropanamide;

N-(3-chloro-4-cyanophenyl)-3-{[(4-chlorophenyl)methane]sulfonyl}-2-(3,4-difluorophenyl)-2-hydroxypropanamide;

N-[4-cyano-3-(trifluoromethyl)phenyl]-2-(4-fluorophenyl)-2-hydroxy-3-(propane-1-sulfinyl)propanamide;

N-[4-cyano-3-(trifluoromethyl)phenyl]-2-(4-fluorophenyl)-2-hydroxy-3-(propane-1-sulfonyl)propanamide;

N-(3-chloro-4-cyano-2-fluorophenyl)-2-(3,4-difluorophenyl)-3-(ethanesulfonyl)-2-hydroxypropanamide;

and pharmaceutically acceptable salts thereof.

11. A pharmaceutical composition comprising an effective amount of one or more arylamide derivatives or pharmaceutically acceptable salts thereof according to any one of claims 1 to 10 together with a suitable carrier and conventional excipients.

12. Use of an arylamide derivative or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 10 in the manufacture of a medicament for treating androgen receptor related disorders.

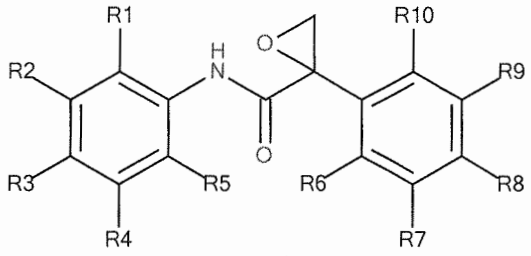
13. The use according to claim 12, where the disorder is benign prostate hyperplasia.

14. The use according to claim 12, where the disorder is cancer.

15. The use according to claim 14, where the cancer is selected from the group consisting of prostate cancer and castration-resistant prostate cancer.

16. The use according to any one of claims 12 - 15, where the use is carried out in combination with another active agent.

17. A process for preparing an arylamide derivative of formula (I) as defined in claim 1, where X is O, SO or SO_2, comprising reacting an epoxy compound of formula (5),



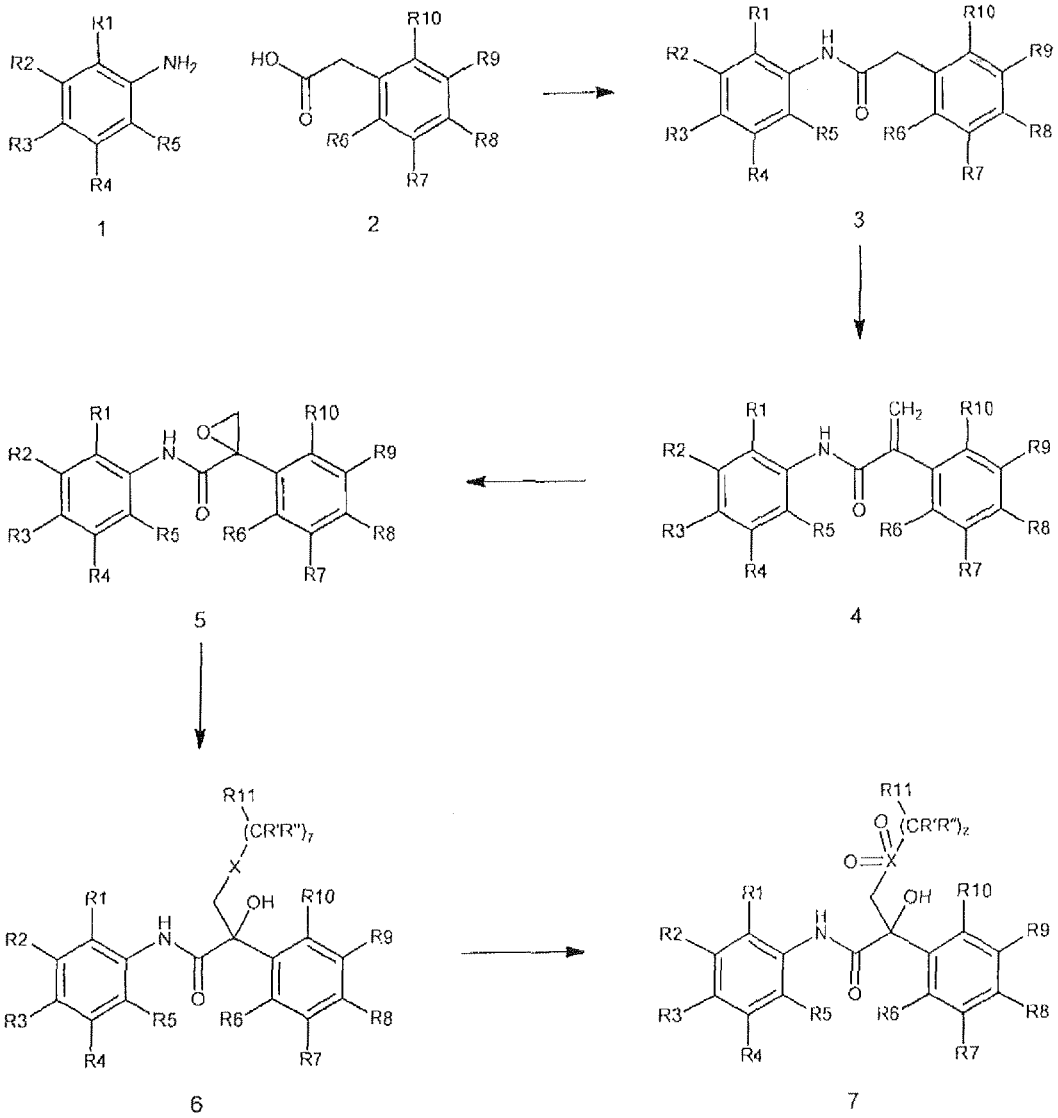
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where R1 - R10 are as defined in claim 1, with a compound of formula (II),

$$R11\text{-}(CR'R'')_z\text{-}X'H \quad (II)$$

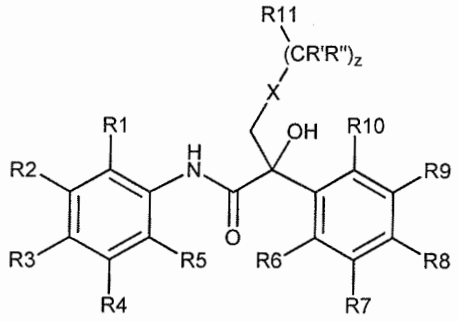
where R11, R', R'' and z are as defined in claim 1 and X' is O or S, to obtain a compound of formula (I), where X is O or S, and, if desired, oxidazing the obtained compound to obtain a compound of formula (I), where X is SO or SO_2.

18. A process according to claim 17, where the process is carried out via the following reaction steps:


R1
R2
NH2
R3
R5
R4
1
HO
O
R10
R9
R6
R8
R7
2
3
4
5
6
7
H
N
O
CH2
X
OH
(CR'R")n

Claims

1. An arylamide derivative having formula (I)



(I)

and stereoisomers and pharmaceutically acceptable salts thereof;

where

R' and R'' are each independently selected from the group consisting of H and alkyl;

z is an integer 0 to 3;

R1 is selected from the group consisting of H, halogen, (per)haloalkyl, hydroxy and $(CH_2)_nCHO$, where n is an integer 0 - 6;

R2 is selected from the group consisting of H, alkyl, halogen, trifluoromethyl, (halo)alkyl, hydroxy and $(CH_2)_nCHO$, where n is an integer 0 - 6;

R3 is selected from the group consisting of NO_2, CN, COR, COOH, CONHR, where R is hydrogen or alkyl; halogen and hydroxy;

R4 and R5 are each independently selected from the group consisting of H, alkyl and halogen, or

R4 and R5 form together with the carbon atoms, to which they are attached, a substituted or unsubstituted aliphatic, heteroaliphatic, aromatic or heteroaromatic ring;

R6 - R10 are each independently selected from the group consisting of H, alkyl, halogen, (per)haloalkyl, CN, NO_2, COR, COOH, CONHR, NR_2, $NHCOCH_3$, $NHCOCF_3$, NHCOR, NHCONHR, NHCOOR, OCONHR, CONHR, where R is as defined above; $NHCSCH_3$, alkylthio, alkylsulfinyl and alkylsulfonyl, and R7 and R8 may each independently be further selected from methoxy; provided that at least one of R6 - R10 is other than H; or

two adjacent R6 - R10 form with the carbon atoms, to which they are attached, a substituted or unsubstituted aliphatic, heteroaliphatic, aromatic or heteroaromatic ring;

N-[4-cyano-3-(trifluoromethyl)phenyl]-2-(3,4-difluorophenyl)-3-(ethanesulfonyl)-2-hydroxypropanamide;

N-(3-chloro-4-cyanophenyl)-3-(ethanesulfonyl)-2-hydroxy-2-[3-(trifluoromethyl)phenyl]propanamide ;

N-(3-chloro-4-cyanophenyl)-3-{[(4-chlorophenyl)methane]sulfonyl}-2-(3-fluoro-4-methoxyphenyl)-2-hydroxypropanamide;

N-(3-chloro-4-cyanophenyl)-3-[(3-fluorobenzene)sulfonyl]-2-hydroxy-2-[3-(trifluoromethyl)phenyl]propanamide;

N-(3-chloro-4-cyanophenyl)-2-(3,4-difluorophenyl)-3-[(3-fluorobenzene)sulfonyl]-2-hydroxypropanamide;

N-[4-cyano-3-(trifluoromethyl)phenyl]-2-(3,4-difluorophenyl)-3-[(3-fluorobenzene)sulfonyl]-2-hydroxypropanamide;

N-(3-chloro-4-cyanophenyl)-3-{[(4-chlorophenyl)methane]sulfonyl}-2-hydroxy-2-[3-(trifluoromethyl)phenyl]propanamide;

N-(3-chloro-4-cyanophenyl)-3-{[(4-chlorophenyl)methane]sulfonyl}-2-hydroxy-2-[3-(trifluoromethyl)phenyl]propanamide;

N-(3-chloro-4-cyanophenyl)-2-(3,4-difluorophenyl)-3-[(4-fluorobenzene)sulfonyl]-2-hydroxypropanamide;

N-(3-chloro-4-cyanophenyl)-2-(3,4-difluorophenyl)-3-{[(4-fluorophenyl)methane]sulfonyl}-2-hydroxypropanamide;

N-(3-chloro-4-cyanophenyl)-3-{[(4-chlorophenyl)methane]sulfonyl}-2-(3,4-difluorophenyl)-2-hydroxypropanamide;

N-[4-cyano-3-(trifluoromethyl)phenyl]-2-(4-fluorophenyl)-2-hydroxy-3-(propane-1-sulfinyl)propanamide;

N-[4-cyano-3-(trifluoromethyl)phenyl]-2-(4-fluorophenyl)-2-hydroxy-3-(propane-1-sulfonyl)propanamide;

N-(3-chloro-4-cyano-2-fluorophenyl)-2-(3,4-difluorophenyl)-3-(ethanesulfonyl)-2-hydroxypropanamide;

and pharmaceutically acceptable salts thereof.

11. A pharmaceutical composition comprising an effective amount of one or more arylamide derivatives or pharmaceutically acceptable salts thereof according to any of claims 1 to 10 together with a suitable carrier and conventional excipients.

12. Arylamide derivative or a pharmaceutically acceptable salt thereof according to any of claims 1 to 10 for use as medicament.

13. Arylamide derivative or a pharmaceutically acceptable salt thereof according to any of claims 1 to 10 for use in the treatment of androgen receptor related disorders.

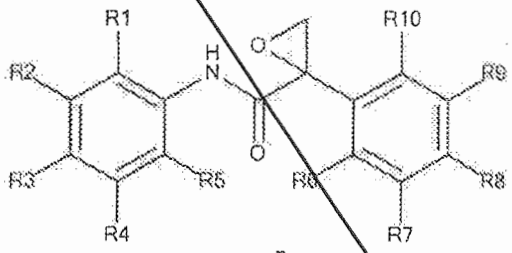
14. Arylamide derivative or a pharmaceutically acceptable salt thereof according to claims 13, where the disorder is benign prostate hyperplasia.

15. Arylamide derivative or a pharmaceutically acceptable salt thereof according to claim 13, where the disorder is cancer.

16. Arylamide derivative or a pharmaceutically acceptable salt thereof according to claim 15, where the cancer is selected from the group consisting of prostate cancer and castration-resistant prostate cancer.

17. Arylamide derivative or a pharmaceutically acceptable salt thereof according to any of claims 13 - 16, where the use is carried out in combination with a another active agent.

18. A process for preparing an arylamide derivative of formula (I) as defined in claim 1, where X is O, SO or SO_2, comprising reacting an epoxy compound of formula (5),



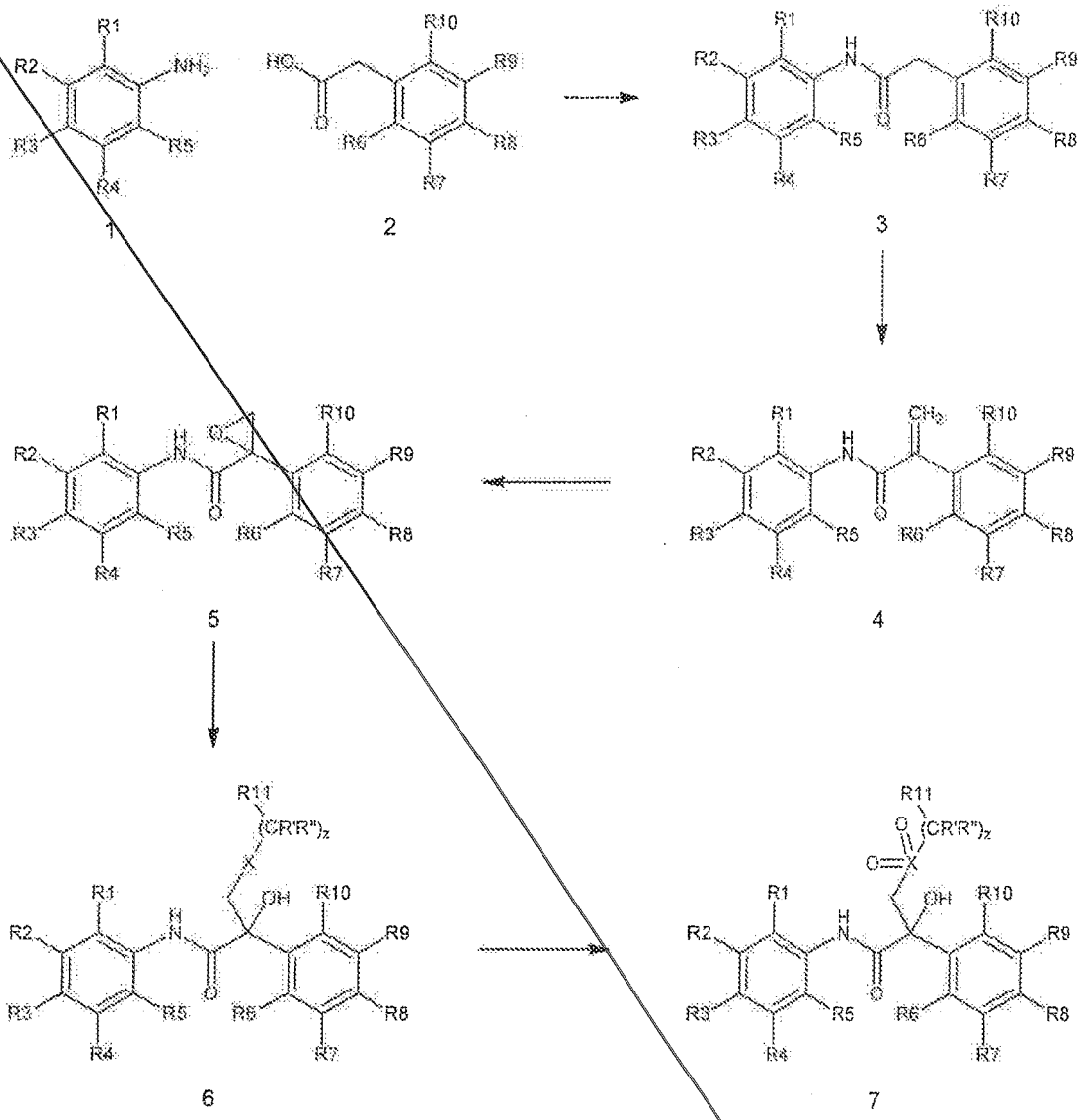
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where R1 - R10 are as defined in claim 1, with a a compound of formula (II),

$$R11\text{-}(CR'R'')_z\text{-}X'H \quad (II)$$

where R11, R', R'' and z are as defined in claim 1 and X' is O or S, to obtain a compound of formula (I), where X is O or S, and, if desired, oxidazing the obtained compound to obtain a compound of formula (I), where X is SO or SO_2.

19. The process according to claim 18, where the process is carried out via the following reaction steps


R1
R2
NH2
R3
R5
R4
1
R10
HO
R9
O
R6
R8
R7
2
3
4
5
6
7
H
N
CH2
OH
X
(CR'R")z