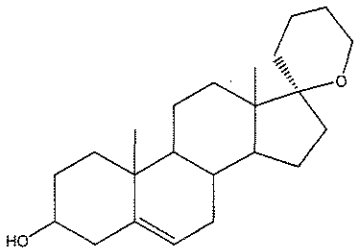
hypertrophy. 17*β*,20*β*-Aziridinyl-pregn-5-en-3β-ol is one of the comparison compounds listed.

In the *Journal of Medicinal Chemistry* **10(4)**, 546-551 (1967), the steroidal cyclic ether of formula **B** below is mentioned as an intermediate in the preparation of steroidal compounds having antiestrogenic properties.



B

WO 2008/155534 discloses neurosteroid compounds and their use in treating neurodegenerative conditions relating to neuronal apoptosis or neuronal injury, including Alzheimer's disease and Parkinson's disease.

SUMMARY OF THE INVENTION

In a first aspect, the present invention refers to the use of an effective amount of a compound in the manufacture of a medicament for preventing or treating an inflammatory condition, selected from the group consisting of asthma, lung inflammation, and retinal inflammatory conditions; wherein the compound is selected from the following, including pharmaceutically acceptable esters, salts and acid addition salts thereof:

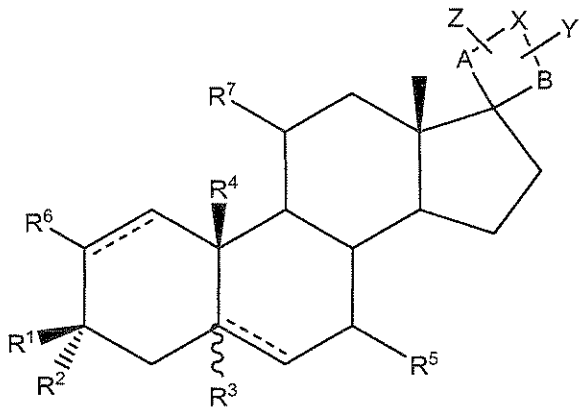
17*β*-spiro-[5-androsten-17.2'-oxiran]-3*β*-ol;

(20*S*)-3β,21-dihydroxy-17β,20-epoxy-5-pregnene;

(20*S*)-3*β*-hydroxy-17*β*,20-epoxy-20-(2-bromoethynyl) -5-androstene;

3β,21-dihydroxy-17α,20-epoxy-5-pregnene.

In an ~~first aspect~~example, the present ~~invention~~disclosure relates to a method of preventing or treating an inflammatory condition, comprising administering to a patient an effective amount of a compound of Formula I:



(I)

wherein R^1, R^2, R^3, R^4, R^5, R^6, R^7, A, B, X, Y and Z are as defined in the detailed description below; or a pharmaceutically acceptable ester, salt or acid addition salt thereof.

Said inflammatory condition may, by way of example only, be any of asthma, lung inflammation, retinal inflammatory conditions, autoimmune diseases such as rheumatoid arthritis, diabetes type I, systemic lupus erythematosus, myasthenia gravis, aplastic anaemia, autoimmune haemolytic anaemia, refractory scleroderma, dermatitis, acquired pemphigus, Grave's disease, autoimmune hepatitis, psoriasis, Crohn's disease, ulcerative colitis and inflammatory bowel diseases and myopathies. Multiple sclerosis is another condition that may be treated in accordance with the ~~invention~~disclosure.

In another ~~aspect~~example, this ~~invention~~disclosure relates to a compound of Formula I, or a pharmaceutically acceptable ester, salt or acid addition salt thereof, for use in preventing or treating an inflammatory condition. Said condition may, for example, be any of those listed above.

In another ~~aspect~~example, this ~~invention~~disclosure relates to the use of a compound of Formula I, or a pharmaceutically acceptable ester, salt or acid addition salt thereof, for the manufacture of a medicament for preventing or treating an inflammatory condition. Said condition may, for example, be any of those listed above.

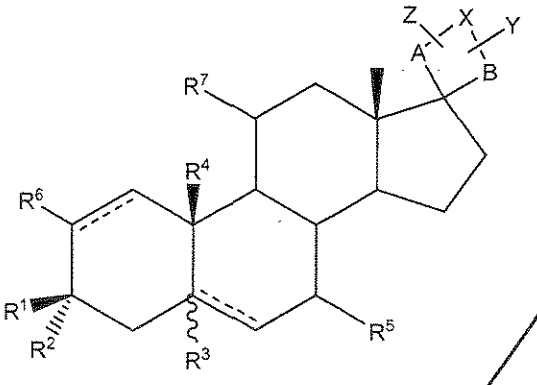
In another ~~aspect~~example, this ~~invention~~disclosure relates to the use of a compound of Formula I, or a pharmaceutically acceptable ester, salt or acid addition salt thereof, to control or suppress an immunological response of a human or non-human animal body.

In another ~~aspect~~example, this ~~invention~~disclosure relates to the use of a compound of Formula I, or a pharmaceutically acceptable ester, salt or acid addition salt thereof, to control or suppress T-cell activity in a human or non-human animal body.

A better understanding of the invention will be obtained from the following detailed description of the article and the desired features, properties, characteristics, and the

CLAIMS:

1. Use of an effective amount of a compound of Formula I



(I)

wherein

R^1 is hydroxyl, alkoxy, alkanoyloxy, aminocarbonyloxy or alkoxycarbonyloxy;

R^2 is hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkoxyalkyl, optionally substituted aminoalkyl, cyano, optionally substituted cyanoalkyl, optionally substituted thiocyanoalkyl, isothiocyano, optionally substituted azidoalkyl, optionally substituted alkanoyloxyalkyl, optionally substituted arylalkyl, optionally substituted heteroarylalkyl, optionally substituted arylalkenyl, optionally substituted heteroarylalkenyl, optionally substituted aryl, optionally substituted arylkynyl, optionally substituted arylkylalkynyl, optionally substituted alkanoyloxyalkynyl, optionally substituted heteroaryloxyalkynyl, optionally substituted oxoalkynyl or a ketal thereof, optionally substituted cyanoalkynyl, optionally substituted heteroarylalkynyl, optionally substituted hydroxyalkynyl, optionally substituted alkoxyalkynyl, optionally substituted aminoalkynyl, optionally substituted acylaminoalkynyl, optionally substituted mercaptoalkynyl, optionally substituted hydroxyalkynyl dioic acid hemi-ester or a salt thereof, or optionally substituted alkynyloxyalkynyl;

or

R^1 is oxygen and R^2 is alkyl or alkenyl or alkynyl group bonded to R^1 to form an oxygenated ring which can be optionally substituted;

R^3 is hydrogen, or when a double bond is present between C5 and C6 of the steroid ring system, then R^3 is not present;

R^4 is hydrogen or lower alkyl;

R^5 is hydrogen, amino, optionally substituted alkylamino, optionally substituted dialkylamino, optionally substituted alkenyl amino, optionally substituted dialkenyl-amino, optionally substituted alkynylamino, optionally substituted dialkynylamino, amido, thio, sulfinyl, sulfonyl, sulfonamido, halogen, hydroxyl, optionally substituted alkoxy, optionally substituted alkenyloxy, optionally substituted alkynyloxy alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted aryl, azido, optionally substituted heteroaryl, oxime =N-O-R^8, carboxymethyloxime, carboxyethyloxime, or carboxypropyloxime;

R^6 is hydrogen, amino, thio, sulfinyl, sulfonyl, sulfonamido, halogen, hydroxyl, optionally substituted alkoxy, optionally substituted alkyl, optionally substituted alkenyl, or optionally substituted alkynyl;

R^7 is hydrogen, amino, optionally substituted alkylamino, optionally substituted dialkylamino, optionally substituted alkenyl amino, optionally substituted dialkenyl-amino, optionally substituted alkynylamino, optionally substituted dialkynylamino, amido, thio, sulfinyl, sulfonyl, sulfonamido, halogen, hydroxyl, optionally substituted alkoxy, optionally substituted alkenyloxy, optionally substituted alkynyloxy alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted aryl, azido, optionally substituted heteroaryl, oxime =N-O-R^8, carboxymethyloxime, carboxyethyloxime, or carboxypropyloxime;

X is a valency bond, a methylene group (-CH_2-) or a heteroatom selected from oxygen, sulfur, or -NH, -S(O), -SO_2, -NR^8, -NC(O)R^8, -N-toluene-4-sulfonyloxy;

A is $-(CH_2)_n-$, a C_{2-5} alkenylene group, or a C_{2-5} alkynylene group, wherein n is an integer and can take the value of 0 or 1 or 2 or 3 or 4 or 5;

B is $-(CH_2)_y-$, a C_{2-5} alkenylene group, or a C_{2-5} alkynylene group, wherein y is an integer and can take the value of 1 or 2 or 3 or 4 or 5;

Y can be bonded to any carbon of the spirocyclic substituent at C17 of the steroid skeleton and is independently H, optionally substituted C_{1-10} alkyl, an optionally substituted fused bicyclic ring system, an optionally substituted bridged bicyclic ring system, an optionally substituted bridged tricyclic ring system, optionally substituted C_{2-10} alkenyl, optionally substituted C_{2-10} alkynyl, optionally substituted aryl, optionally substituted arylalkyl, optionally substituted heteroaryl, optionally substituted heteroarylalkyl, formyl, carboxy, $-NC(O)R^8$, $NC(S)R^8$, $-NR^8R^9$, optionally substituted C(O)-W, optionally substituted C(O)O-W, or optionally substituted C(S)O-W;

Z can be bonded to any carbon of the spirocyclic substituent at C17 of the steroid skeleton and is independently H, optionally substituted C_{1-10} alkyl, an optionally substituted fused bicyclic ring system, an optionally substituted bridged bicyclic ring system, an optionally substituted bridged tricyclic ring system, optionally substituted C_{2-10} alkenyl, optionally substituted C_{2-10} alkynyl, optionally substituted aryl, optionally substituted arylalkyl, optionally substituted heteroaryl, optionally substituted heteroarylalkyl, formyl, carboxy, $-NC(O)R^8$, $NC(S)R^8$, $-NR^8R^9$, optionally substituted C(O)-W, optionally substituted C(O)O-W, optionally substituted C(S)O-W;

Y and Z can be bonded to the same carbon of the spirocyclic substituent at C17;

W is optionally substituted C_{1-10} alkyl, optionally substituted heterocycloalkyl, an optionally substituted fused bicyclic ring system, an optionally substituted bridged bicyclic ring system, an optionally substituted bridged tricyclic ring system, optionally substituted C_{2-10} alkenyl, optionally substituted heterocycloalkenyl,

optionally substituted C_{2-10} alkynyl, optionally substituted heterocycloalkynyl, optionally substituted aryl, or optionally substituted heteroaryl;

R^8 and R^9 are independently optionally substituted C_{1-10} alkyl, optionally substituted heterocycloalkyl, an optionally substituted fused bicyclic ring system, an optionally substituted bridged bicyclic ring system, an optionally substituted bridged tricyclic ring system, optionally substituted C_{2-10} alkenyl, optionally substituted heterocycloalkenyl, optionally substituted C_{2-10} alkynyl, optionally substituted heterocycloalkynyl, optionally substituted aryl, or optionally substituted heteroaryl;

and the dotted lines indicate that a single or double bond may be present;

or a pharmaceutically acceptable ester, salt or acid addition salt thereof in the manufacture of a medicament for preventing or treating an inflammatory condition, selected from the group consisting of asthma, lung inflammation, and retinal inflammatory conditions.

2. The Use according to claim 1 wherein X is an oxygen atom.

3. The Use according to claim 1 wherein X is a methylene group.

4. The Use according to claim 1 wherein X is -NH.

5. The Use according to any preceding claim wherein a double bond is present between C5 and C6 of the steroid ring system, so that R^3 is not present.

6. The Use according to any preceding claim wherein R^1 = OH; $R^2 = R^5 = R^6 = R^7$ = Y = H and R^4 = Me.

7. The use according to any one of claims 1 to 4 wherein R^1 = OH; $R^2 = R^5 = R^6 = R^7$ = Y = H, A= $-(CH_2)_n-$, B= $-(CH_2)_y-$; no double bond is present between C1 and C2 of the steroid ring system; a double bond is present between C5 and C6 of the steroid ring system, so that R^3 is not present; R^4 = Me; n = 0 and y = 1.

8. The use according to claim 1 wherein the compound of Formula I is selected from the following, including pharmaceutically acceptable esters, salts and acid addition salts thereof:

17*β*-spiro-[5-androsten-17,2'-oxiran]-3*β*-ol;

(20*S*)-3β,21-dihydroxy-17β,20-epoxy-5-pregnene;

(20*S*)-3*β*-hydroxy-17*β*,20-epoxy-20-(2-bromoethynyl) -5-androstene;

3β,21-dihydroxy-17α,20-epoxy-5-pregnene.

CLAIMS:

1. Use of an effective amount of a compound in the manufacture of a medicament for preventing or treating an inflammatory condition, selected from the group consisting of asthma, lung inflammation, and retinal inflammatory conditions; wherein the compound is selected from the following, including pharmaceutically acceptable esters, salts and acid addition salts thereof:

17*β*-spiro-[5-androsten-17,2'-oxiran]-3*β*-ol;

(20*S*)-3β,21-dihydroxy-17β,20-epoxy-5-pregnene;

(20*S*)-3*β*-hydroxy-17*β*,20-epoxy-20-(2-bromoethynyl) -5-androstene;

3β,21-dihydroxy-17α,20-epoxy-5-pregnene.