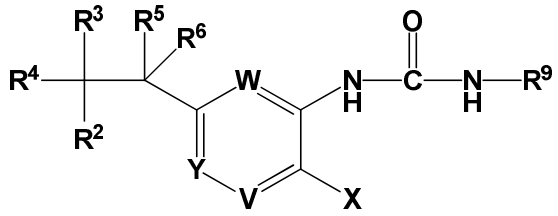
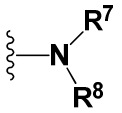
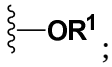
WHAT IS CLAIMED IS:

1. A compound of formula I



(I)

wherein

X is  or ;

W is N or CR^{10};

Y is N or CR^{11};

V is N or CR^{12};

R^1 is optionally substituted aryl-C_1-C_{10}-alkyl, or optionally substituted aryl;

R^2 is -CO_2H, optionally substituted heterocyclyl, optionally substituted –$CONHSO_2R^{14}$, optionally substituted -$CONHCOR^{13}$, optionally substituted –SO_2NHCOR^{13} or optionally substituted –$NHSO_2R^{14}$;

R^{13} is optionally substituted C_1-C_{10} alkyl, optionally substituted C_3-C_8 cycloalkyl, optionally substituted C_2-C_{10} alkenyl or optionally substituted C_2-C_{10} alkynyl;

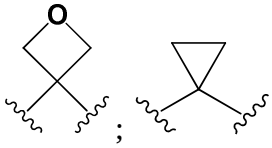
R^{14} is CF_3 or optionally substituted C_1-C_{10} alkyl;

R^3 is H, halo, CN, optionally substituted C_1-C_{10} alkyl, optionally substituted C_3-C_8 cycloalkyl, optionally substituted C_2-C_{10} alkenyl or optionally substituted C_2-C_{10} alkynyl;

R^4 is H or optionally substituted C_1-C_{10} alkyl;

R^5 and R^6 are independently H, optionally substituted C_1-C_{10} alkyl or OH, or

R^5 and R^6 are taken together with the carbon to which they are attached to form

;

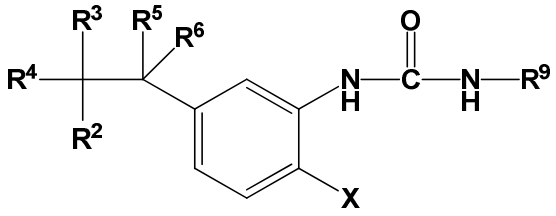
R^7 and R^8 are independently H, optionally substituted C_1-C_{10} alkyl, optionally substituted C_1-C_{10}-alkoxy-C_1-C_{10}-alkyl, optionally substituted C_1-C_{10} alkoxy, optionally substituted aryl, optionally substituted aryl-C_1-C_{10}-alkyl, optionally substituted 5- to 8-membered heteroaryl, or optionally substituted C_3-C_8 cycloalkyl;

R^9 is optionally substituted aryl, optionally substituted C_1-C_{10} alkylaryl, optionally substituted C_1-C_{10} alkoxyaryl, optionally substituted heteroaryl, optionally substituted C_1-C_{10}-alkyl heteroaryl, optionally substituted aryl-C_1-C_{10}-alkylaryl, optionally substituted aryloxyaryl, optionally substituted C_1-C_{10} alkyl, optionally substituted C_2-C_{10} alkenyl, optionally substituted C_2-C_{10} alkynyl, optionally substituted C_3-C_8 cycloalkyl, or optionally substituted C_4-C_8 cycloalkenyl;

R^{10} , R^{11} and R^{12} are H;

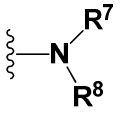
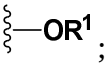
and/or a stereoisomer, a tautomer or a pharmaceutically acceptable salt thereof.

2. The compound according to Claim 1 of formula II



(II)

wherein

X is  or ;

R^1 is optionally substituted aryl-C_1-C_{10}-alkyl, or optionally substituted aryl;

R^2 is -CO_2H, optionally substituted heterocyclyl, optionally substituted –$CONHSO_2R^{14}$, optionally substituted -$CONHCOR^{13}$, optionally substituted –SO_2NHCOR^{13} or optionally substituted –$NHSO_2R^{14}$;

R^{13} is optionally substituted C_1-C_{10} alkyl, optionally substituted C_3-C_8 cycloalkyl, optionally substituted C_2-C_{10} alkenyl or optionally substituted C_2-C_{10} alkynyl;

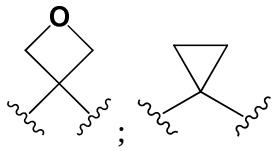
R^{14} is CF_3 or optionally substituted C_1-C_{10} alkyl;

R^3 is H, halo, CN, optionally substituted C_1-C_{10} alkyl, optionally substituted C_3-C_8 cycloalkyl, optionally substituted C_2-C_{10} alkenyl or optionally substituted C_2-C_{10} alkynyl;

R^4 is H or optionally substituted C_1-C_{10} alkyl;

R^5 and R^6 are independently H, optionally substituted C_1-C_{10} alkyl or OH, or

R^5 and R^6 are taken together with the carbon to which they are attached to form



;

R^7 and R^8 are independently H, optionally substituted C_1-C_{10} alkyl, optionally substituted C_1-C_{10}-alkoxy-C_1-C_{10}-alkyl, optionally substituted C_1-C_{10} alkoxy, optionally substituted aryl, optionally substituted aryl-C_1-C_{10}-alkyl, optionally substituted 5- to 8-membered heteroaryl, or optionally substituted C_3-C_8 cycloalkyl;

R^9 is optionally substituted aryl, optionally substituted C_1-C_{10} alkylaryl, optionally substituted C_1-C_{10} alkoxyaryl, optionally substituted heteroaryl, optionally substituted C_1-C_{10}-alkyl heteroaryl, optionally substituted aryl-C_1-C_{10}-alkylaryl, optionally substituted aryloxyaryl, optionally substituted C_1-C_{10} alkyl, optionally substituted C_2-C_{10} alkenyl, optionally substituted C_2-C_{10} alkynyl, optionally substituted C_3-C_8 cycloalkyl, or optionally substituted C_4-C_8 cycloalkenyl;

R^{10} , R^{11} and R^{12} are H;

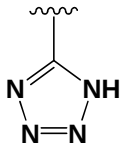
and/or a stereoisomer, a tautomer or a pharmaceutically acceptable salt thereof.

3. The compound according to Claim 2 wherein X is NR^7R^8 and/or a stereoisomer, a tautomer or a pharmaceutically acceptable salt thereof.

4. The compound according to Claim 2 wherein X is OR^1 and/or a stereoisomer, a tautomer or a pharmaceutically acceptable salt thereof.

5. The compound according to Claim 3 wherein

X is NR^7R^8;

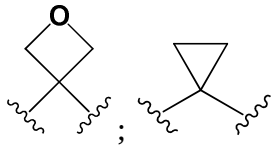
R^2 is CO_2H or  ;

R^3 is H or C_1-C_6 alkyl;

R^4 is H or C_1-C_6 alkyl;

R^5 and R^6 are independently H, C_1-C_6 alkyl, CF_3 or OH,

or R^5 and R^6 are taken together with the carbon to which they are attached to form



;

R^7 and R^8 are independently selected from C_1-C_6 alkyl, C_1-C_6-alkoxy-C_1-C_{10} alkyl, C_1-C_6 alkoxy, or optionally substituted aryl-C_1-C_6-alkyl;

R^9 is aryl, C_1-C_6 alkylaryl, C_1-C_6 alkoxyaryl, or optionally substituted heteroaryl ; and/or a stereoisomer, a tautomer or a pharmaceutically acceptable salt thereof.

6. The compound according to Claim 4

wherein

X is OR^1;

R^1 is aryl-C_1-C_6-alkyl or aryl(C_3-C_8 cycloalkyl)C_1-C_6 alkyl;

R^2 is CO_2H;

R^3 is H;

R^4 is H;

R^5 and R^6 are independently selected from H or C_1-C_6 alkyl;

R^9 is C_1-C_6 alkylaryl or haloaryl;

and/or a stereoisomer, a tautomer or a pharmaceutically acceptable salt thereof.

7. The compound according to Claim 1 which is 3-(4-(diisobutylamino)-3-(3-(3-methylisoxazol-5-yl)ureido)phenyl)butanoic acid, and/or a stereoisomer, a tautomer or a pharmaceutically acceptable salt thereof.

8. A pharmaceutical composition comprising one or more compounds according to claim 1 and a pharmaceutically acceptable carrier or diluent.

9. A method of inhibiting activity of indoleamine 2,3-dioxygenase comprising contacting said indoleamine 2,3-dioxygenase with a compound according to claim 1, or a pharmaceutically acceptable salt thereof, wherein the contacting of said indoleamine 2,3-dioxygenase with the compound, or the pharmaceutically acceptable salt thereof is performed *in vitro*.

10. The compound of claim 1 that is
3-(4-(diisobutylamino)-3-(3-(p-tolyl)ureido)phenyl)-2-methylpropanoic acid;
2-(3-(4-(diisobutylamino)-3-(3-(p-tolyl)ureido)phenyl)oxetan-3-yl)acetic acid;
3-(4-(diisobutylamino)-3-(3-(p-tolyl)ureido)phenyl)butanoic acid;
3-(4-(diisobutylamino)-3-(3-(2-fluorophenyl)ureido)phenyl)butanoic acid;
3-(3-(3-(4-chloro-2-fluorophenyl)ureido)-4-(diisobutylamino)phenyl)butanoic acid;
3-(4-(diisobutylamino)-3-(3-(4-ethoxyphenyl)ureido)phenyl)butanoic acid;
3-(4-(diisobutylamino)-3-(3-(6-methylpyridin-3-yl)ureido)phenyl)butanoic acid;
3-(4-((4-chlorobenzyl)(2-methoxyethyl)amino)-3-(3-(p-tolyl)ureido)phenyl)butanoic acid;
3-(3-(3-(2-fluorophenyl)ureido)-4-(1-phenylpropoxy)phenyl)butanoic acid;
3-(4-(1-phenylpropoxy)-3-(3-(p-tolyl)ureido)phenyl)butanoic acid;
3-(4-(cyclopropyl(phenyl)methoxy)-3-(3-(p-tolyl)ureido)phenyl)butanoic acid;
3-(4-(3-5 phenylpropoxy)-3-(3-(p-tolyl)ureido)phenyl)butanoic acid; 3-(4-(diisobutylamino)-3-(3-(3-methylisoxazol-5-yl)ureido)phenyl)butanoic acid;
3-(4-(diisobutylamino)-3-(3-(p-tolyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-(2-fluorophenyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-(4-phenoxyphenyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(3-(3-(4-chlorophenyl)ureido)-4-(diisobutylamino)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-(4-fluorophenyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;

3-(3-(3-(2,4-dichlorophenyl)ureido)-4-(diisobutylamino)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-phenylureido)phenyl)-4,4,4-trifluorobutanoicacid;
3-(4-(diisobutylamino)-3-(3-(4-isopropylphenyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-(4-ethylphenyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-(4-(trifluoromethyl)phenyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-(4-methoxyphenyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-(o-tolyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(3-(3-(2-chloro-4-methylphenyl)ureido)-4-(diisobutylamino)phenyl)-4,4,4-trifluorobutanoic acid;
3-(3-(3-(4-benzylphenyl)ureido)-4-(diisobutylamino)phenyl)-4,4,4-trifluorobutanoic acid;
3-(3-(3-(4-(difluoromethoxy)phenyl)ureido)-4-(diisobutylamino)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-(4-ethoxyphenyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(3-(3-(2,4-difluorophenyl)ureido)-4-(diisobutylamino)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-(m-tolyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
1-(5-(2-(1H-tetrazol-5-yl)ethyl)-2-(diisobutylamino)phenyl)-3-(p-tolyl)urea;
1-(5-(2-(1H-tetrazol-5-yl)ethyl)-2-(diisobutylamino)phenyl)-3-(4-fluorophenyl)urea;
2-(1-(4-(diisobutylamino)-3-(3-(p-tolyl)ureido)phenyl)cyclopropyl)acetic acid;
(R)-3-(4-(diisobutylamino)-3-(3-(quinoxalin-6-yl)ureido)phenyl)butanoic acid;
(S)-3-(4-(diisobutylamino)-3-(3-(quinoxalin-6-yl)ureido)phenyl)butanoic acid;
(R)-3-(4-(diisobutylamino)-3-(3-(pyrimidin-5-yl)ureido)phenyl)butanoic acid;
(S)-3-(4-(diisobutylamino)-3-(3-(pyrimidin-5-yl)ureido)phenyl)butanoic acid;

(S)-3-(4-(diisobutylamino)-3-(3-(2-5 methylpyrimidin-5-yl)ureido)phenyl)butanoic acid;

(R)-3-(4-(diisobutylamino)-3-(3-(2-methylpyrimidin-5-yl)ureido)phenyl)butanoic acid;

(R)-3-(4-(diisobutylamino)-3-(3-(p-tolyl)ureido)phenyl)butanoic acid;

(R)-3-(4-(diisobutylamino)-3-(3-(5-methylisoxazol-3-yl)ureido)phenyl)butanoic acid;

(S)-3-(4-(diisobutylamino)-3-(3-(p-tolyl)ureido)phenyl)butanoic acid;

(S)-3-(4-(diisobutylamino)-3-(3-(5-methylisoxazol-3-yl)ureido)phenyl)butanoic acid;

(R)-3-(3-(2-(4-cyanophenyl)acetamido)-4-(diisobutylamino)phenyl)butanoic acid;

3-(4-(diisobutylamino)-3-(3-(3-(trifluoromethyl)isoxazol-5-yl)ureido)phenyl)butanoic acid;

3-(3-(3-(3-cyclopropylisoxazol-5-yl)ureido)-4-(diisobutylamino)phenyl)butanoic acid;

3-(4-(diisobutylamino)-3-(3-(5-methylisoxazol-3-yl)ureido)phenyl)butanoic acid; or

3-(4-(cyclohexyl(isobutyl)amino)-3-(3-(p-tolyl)ureido)phenyl)butanoic acid;

and/or a stereoisomer, a tautomer or a pharmaceutically acceptable salt thereof.

11. The method of claim 9 comprising contacting said indoleamine 2,3-dioxygenase with a compound according to claim 1 that is

3-(4-(diisobutylamino)-3-(3-(p-tolyl)ureido)phenyl)-2-methylpropanoic acid;

2-(3-(4-(diisobutylamino)-3-(3-(p-tolyl)ureido)phenyl)oxetan-3-yl)acetic acid;

3-(4-(diisobutylamino)-3-(3-(p-tolyl)ureido)phenyl)butanoic acid;

3-(4-(diisobutylamino)-3-(3-(2-fluorophenyl)ureido)phenyl)butanoic acid;

3-(3-(3-(4-chloro-2-fluorophenyl)ureido)-4- (diisobutylamino)phenyl)butanoic acid;

3-(4-(diisobutylamino)-3-(3-(4-ethoxyphenyl)ureido)phenyl)butanoic acid;

3-(4-(diisobutylamino)-3-(3-(6-methylpyridin-3-yl)ureido)phenyl)butanoic acid;

3-(4-((4-chlorobenzyl)(2-methoxyethyl)amino)-3-(3-(p-tolyl)ureido)phenyl)butanoic acid;

3-(3-(3-(2-fluorophenyl)ureido)-4-(1-phenylpropoxy)phenyl)butanoic acid;
3-(4-(1-phenylpropoxy)-3-(3-(p-tolyl)ureido)phenyl)butanoic acid;
3-(4-(cyclopropyl(phenyl)methoxy)-3-(3-(p-tolyl)ureido)phenyl)butanoic acid;
3-(4-(3-5 phenylpropoxy)-3-(3-(p-tolyl)ureido)phenyl)butanoic acid; 3-(4-(diisobutylamino)-3-(3-(3-methylisoxazol-5-yl)ureido)phenyl)butanoic acid;
3-(4-(diisobutylamino)-3-(3-(p-tolyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-(2-fluorophenyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-(4-phenoxyphenyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(3-(3-(4-chlorophenyl)ureido)-4-(diisobutylamino)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-(4-fluorophenyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(3-(3-(2,4-dichlorophenyl)ureido)-4-(diisobutylamino)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-phenylureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-(4-isopropylphenyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-(4-ethylphenyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-(4-(trifluoromethyl)phenyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-(4-methoxyphenyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-(o-tolyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(3-(3-(2-chloro-4-methylphenyl)ureido)-4-(diisobutylamino)phenyl)-4,4,4-trifluorobutanoic acid;
3-(3-(3-(4-benzylphenyl)ureido)-4-(diisobutylamino)phenyl)-4,4,4-trifluorobutanoic acid;

3-(3-(3-(4-(difluoromethoxy)phenyl)ureido)-4-(diisobutylamino)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-(4-ethoxyphenyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
3-(3-(3-(2,4-difluorophenyl)ureido)-4-(diisobutylamino)phenyl)-4,4,4-trifluorobutanoic acid;
3-(4-(diisobutylamino)-3-(3-(m-tolyl)ureido)phenyl)-4,4,4-trifluorobutanoic acid;
1-(5-(2-(1H-tetrazol-5-yl)ethyl)-2-(diisobutylamino)phenyl)-3-(p-tolyl)urea;
1-(5-(2-(1H-tetrazol-5-yl)ethyl)-2-(diisobutylamino)phenyl)-3-(4-fluorophenyl)urea;
2-(1-(4-(diisobutylamino)-3-(3-(p-tolyl)ureido)phenyl)cyclopropyl)acetic acid;
(R)-3-(4-(diisobutylamino)-3-(3-(quinoxalin-6-yl)ureido)phenyl)butanoic acid;
(S)-3-(4-(diisobutylamino)-3-(3-(quinoxalin-6-yl)ureido)phenyl)butanoic acid;
(R)-3-(4-(diisobutylamino)-3-(3-(pyrimidin-5-yl)ureido)phenyl)butanoic acid;
(S)-3-(4-(diisobutylamino)-3-(3-(pyrimidin-5-yl)ureido)phenyl)butanoic acid;
(S)-3-(4-(diisobutylamino)-3-(3-(2-5 methylpyrimidin-5-yl)ureido)phenyl)butanoic acid;
(R)-3-(4-(diisobutylamino)-3-(3-(2-methylpyrimidin-5-yl)ureido)phenyl)butanoic acid;
(R)-3-(4-(diisobutylamino)-3-(3-(p-tolyl)ureido)phenyl)butanoic acid;
(R)-3-(4-(diisobutylamino)-3-(3-(5-methylisoxazol-3-yl)ureido)phenyl)butanoic acid;
(S)-3-(4-(diisobutylamino)-3-(3-(p-tolyl)ureido)phenyl)butanoic acid;
(S)-3-(4-(diisobutylamino)-3-(3-(5-methylisoxazol-3-yl)ureido)phenyl)butanoic acid;
(R)-3-(3-(2-(4-cyanophenyl)acetamido)-4-(diisobutylamino)phenyl)butanoic acid;
3-(4-(diisobutylamino)-3-(3-(3-(trifluoromethyl)isoxazol-5-yl)ureido)phenyl)butanoic acid;
3-(3-(3-(3-cyclopropylisoxazol-5-yl)ureido)-4-(diisobutylamino)phenyl)butanoic acid;
3-(4-(diisobutylamino)-3-(3-(5-methylisoxazol-3-yl)ureido)phenyl)butanoic acid;

or 3-(4-(cyclohexyl(isobutyl)amino)-3-(3-(p-tolyl)ureido)phenyl)butanoic acid, or a pharmaceutically acceptable salt thereof.