

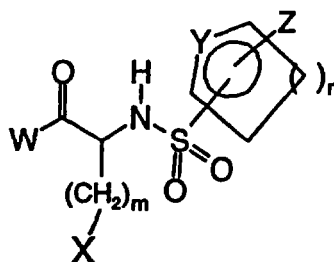


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SULFONYLAMINO DERIVATIVES WHICH INHIBIT MATRIX-DEGRADING METALLOPROTEINASES

Abstract of the Disclosure

Compounds of formula I



(I)

wherein:

W is -OH or -NHOH;

X is

- a) an unsubstituted or substituted heterocyclic radical, selected from the group consisting of pyrrolidinyl, pyrrolyl, pyrazolyl, oxetanyl, pyrazolinyl, imidazolinyl, imidazolidinyl, oxazolyl, oxazolidinyl, isoxazolinyl, isoxazolyl, thiazolyl, thiadiazolyl, thiazolidinyl, isothiazolyl, isothiazolidinyl, furyl, tetrahydrofuryl, oxadiazolyl, piperidinyl, piperazinyl, 2-oxopiperazinyl, 2-oxopiperidinyl, 2-oxopyrrolodinyl, 2-oxoazepinyl, azepinyl, 4-piperidinyl, pyridyl, pyrazinyl, pyridazinyl, tetrahydropyranyl, morpholinyl, thiamorpholinyl, thiamorpholinyl sulfoxide, thiamorpholinyl sulfone, 1,3-dioxolane, tetrahydro-1,1-dioxothienyl, benzothiazolyl, benzoxazolyl, quinuclidinyl, quinolinyl, tetrahydroisoquinolinyl, isoquinolinyl, benzimidazolyl, benzopyranyl, indolizinyl, benzofuryl, chromonyl, coumarinyl, benzopyranyl, cinnolinyl, quinoxalinyl, indazolyl, pyrrolopyridyl, furopyridinyl, dihydrobenzothiazolyl, dihydroquinazolinyl, tetrahydroquinazolinyl and 10 to 15 membered tricyclic ring systems, which have at least one heteroatom in at least one carbon atom-containing ring, in which each ring of the heterocyclic radical containing a heteroatom may have 1, 2 or 3 heteroatoms selected from nitrogen atoms, oxygen atoms and sulfur atoms;
- with the proviso that when X is a nitrogen containing heterocyclic radical, the heterocyclic radical is attached to the (CH₂)_m moiety by a ring nitrogen and the proviso that nitrogen and sulfur heteroatoms of the heterocyclic radical may also be oxidized;



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b) $-\text{NR}_1\text{SO}_2\text{R}_2$, in which

R_1 is hydrogen, alkyl, heterocyclalkyl, aralkyl or heteroarylalkyl and

R_2 is hydrogen, alkyl, heterocyclalkyl, aralkyl, heteroarylalkyl, aryl or heteroaryl;

c) heterocyclalkylthio;

d) $-\text{CONR}_2\text{R}_3$, in which

R_2 and R_3 taken together with the nitrogen atom to which they are attached form a 5- to 7- membered ring, which may optionally contain another heteroatom selected from oxygen, nitrogen and sulfur; or

e) $-\text{NR}_1\text{COR}_2$, in which

R_1 is hydrogen, alkyl, heterocyclalkyl, aralkyl or heteroarylalkyl and

R_2 is hydrogen, heterocyclalkyl, aralkyl, heteroarylalkyl or aryl;

Y is carbon, nitrogen, oxygen or sulfur, provided that when Y is carbon, n is 2;

Z is alkyl, aryl, alkoxy, aryloxy, aralkoxyaryl, aralkoxyheteroaryl, heteroaryl, heterocyclalkyl, heteroaryloxy, $-\text{CONR}_2\text{R}_3$, $-\text{NR}_1\text{COR}_2$, $-\text{NR}_1\text{CONR}_2\text{R}_3$, $-\text{OCONR}_2\text{R}_3$, $-\text{NR}_1\text{COOR}_4$, or $-\text{SO}_2\text{R}_2$, in which

R_1 is hydrogen, alkyl, heterocyclalkyl, aralkyl or heteroarylalkyl and

R_2 and R_3 are independently hydrogen, alkyl, heterocyclalkyl, aralkyl, heteroarylalkyl, aryl or heteroaryl; or

R_2 and R_3 taken together with the nitrogen atom to which they are attached form a 5- to 7- membered ring, which may optionally contain another heteroatom selected from oxygen, nitrogen and sulfur;

R_4 is alkyl, heterocyclalkyl, aralkyl, aryl or heteroaryl;

m represents an integer from one to six; and

n represents the integer one or two; and pharmaceutically acceptable salt thereof;

pharmaceutical compositions comprising said compounds and to processes for their preparation; a method of inhibiting matrix-degrading metalloproteinases in mammals using such compounds and the use of these derivatives as medicaments. Compounds of formula I are inhibitors of matrix-degrading metalloproteinases and are useful for the treatment of conditions related thereto.