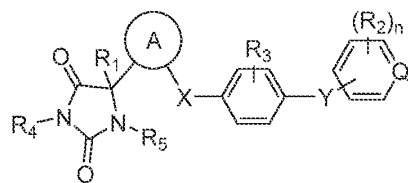


CLAIMS

We claim:

- 5 1. A compound of formula (I):



(I),

or a tautomer, stereoisomer, pharmaceutically acceptable salt, or hydrate thereof,
wherein:

ring A is an optionally substituted heteroaryl;

- 10 Q is CR₂ or N;

R₁ is hydrogen or alkyl;

each R₂ is independently hydrogen, alkyl, halo, hydroxyl, haloalkyl, alkoxy, alkylthio,
amino, amido, alkylamino, aminoalkyl, cyano, hydroxyalkyl, -(CH₂)_pC(O)OR₆, or -
(CH₂)_pOC(O)R₆;

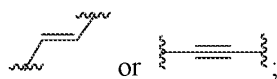
- 15 R₃ is hydrogen, halo, or alkyl;

each R₄ and R₅ is independently hydrogen or alkyl;

each R₆ is independently hydrogen or alkyl, wherein the alkyl is unsubstituted or
substituted with one or more groups independently selected from amino, hydroxyl, halo, and
alkoxy;

- 20 X is S or O;

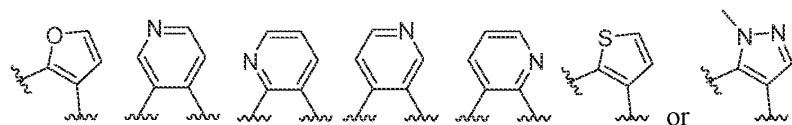
Y is:



n is 1, 2, 3 or 4; and

p is 0, 1, 2, 3, 4, or 5.

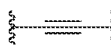
2. The compound of claim 1, wherein ring A is a 5- to 6-membered monocyclic heteroaryl having 1 to 3 heteroatoms independently selected from O, S and N, wherein the 5- to 6-membered monocyclic heteroaryl is optionally substituted with alkyl.
3. The compound of claim 1, wherein ring A is pyridinyl, furanyl, thienyl, or N-methyl pyrazolyl.
4. The compound of claim 1, wherein ring A is:



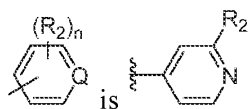
5. The compound of any one of claims 1-4, wherein R_1 is hydrogen or C_{1-4} alkyl.
6. The compound of any one of claims 1-5, wherein n is 1 and R_2 is $-CH_3$.
7. The compound of any one of claims 1-6, wherein R_3 is hydrogen.
8. The compound of any one of claims 1-7, wherein each of R_4 and R_5 is hydrogen.
9. The compound of any one of claims 1-8, wherein X is S.
10. The compound of any one of claims 1-8, wherein X is O.
11. The compound of any one of claims 1-10, wherein Q is N.
12. The compound of any one of claims 1-11, wherein Y is:



13. The compound of any one of claims 1-11, wherein Y is:



14. The compound of any one of claims 1-13, wherein:



15. The compound of claim 1, wherein:

ring A is pyridinyl, furanyl, thienyl, or N-methyl pyrazolyl;

R_1 is hydrogen, $-CH_3$ or $-CH_2CH_3$;

R_2 is $-CH_3$, $-C(O)NH_2$, $-CH_2OH$, $-OCH_3$, or $-OH$;

each of R_3 , R_4 , and R_5 is hydrogen;

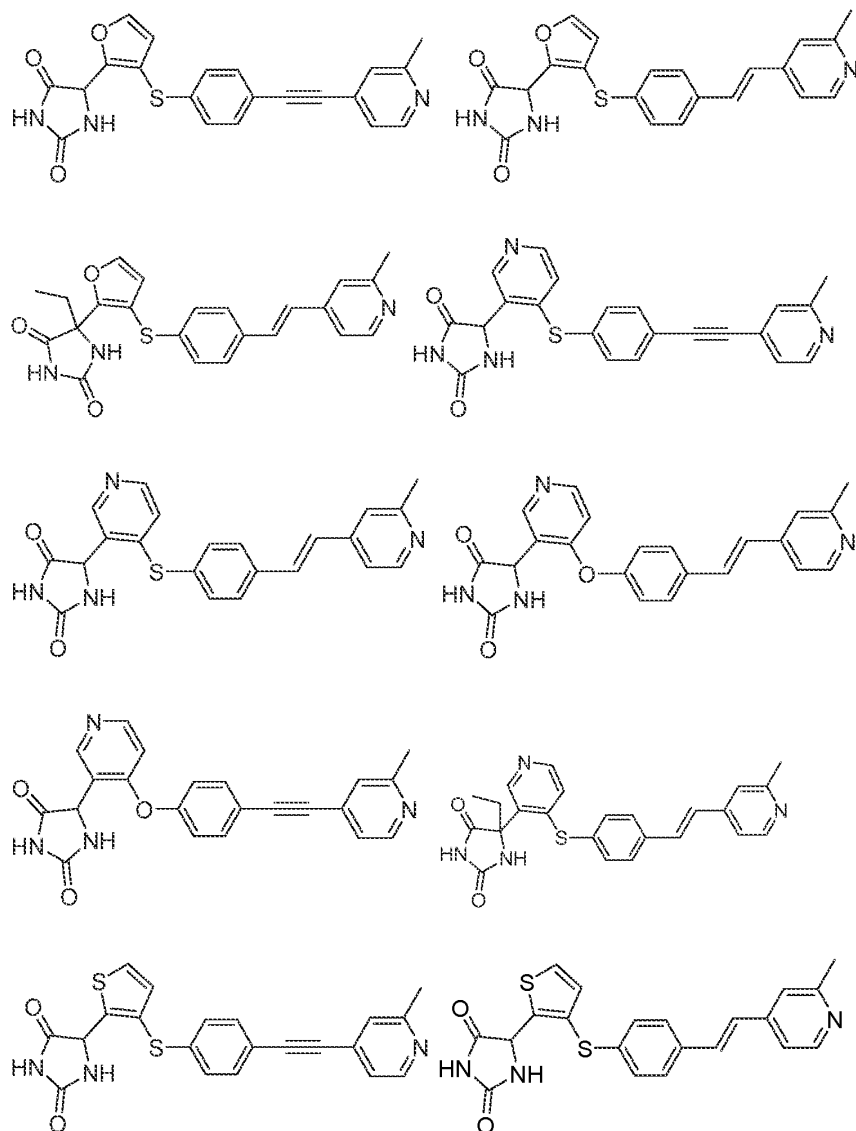
X is S or O;

Y is  or ,

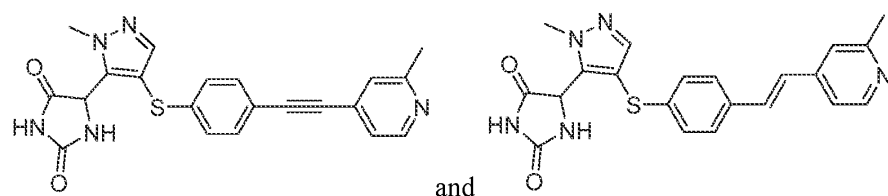
Q is CH or N; and

n is 1.

5 16. A compound selected from the group consisting of:



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or a tautomer, stereoisomer, pharmaceutically acceptable salt, or hydrate thereof.

17. The compound of claim 16, or a pharmaceutically acceptable salt thereof.

18. A pharmaceutical composition comprising the compound of any one of claims 1-17, and
 5 at least one pharmaceutically acceptable carrier.

19. A method of inhibiting macrophage elastase (MMP-12) in a subject in need thereof, the
 method comprising administering to the subject the pharmaceutical composition of claim
 18.

20. A method of treating a disease mediated by macrophage elastase (MMP-12) in a subject
 10 in need thereof, the method comprising administering to the subject the pharmaceutical
 composition of claim 18, wherein the disease is selected from the group consisting of
 asthma, chronic obstructive pulmonary disease (COPD), a emphysema, acute lung injury,
 idiopathic pulmonary fibrosis (IPF), sarcoidosis, systemic sclerosis, liver fibrosis,
 nonalcoholic steatohepatitis (NASH), arthritis, cancer, heart disease, inflammatory bowel
 15 disease (IBD), acute kidney injury (AKI), chronic kidney disease (CKD), Alport
 syndrome, and nephritis.

21. The compound of any one of claims 1-17 or the pharmaceutical composition of claim 18
 for use in inhibiting macrophage elastase (MMP-12) or treating a disease mediated by
 MMP-12 in a subject in need thereof, preferably, the subject is in need of a treatment of a
 20 disease selected from the group consisting of asthma, chronic obstructive pulmonary
 disease (COPD), a emphysema, acute lung injury, idiopathic pulmonary fibrosis (IPF),
 sarcoidosis, systemic sclerosis, liver fibrosis, nonalcoholic steatohepatitis (NASH),
 arthritis, cancer, heart disease, inflammatory bowel disease (IBD), acute kidney injury
 (AKI), chronic kidney disease (CKD), Alport syndrome, and nephritis.

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