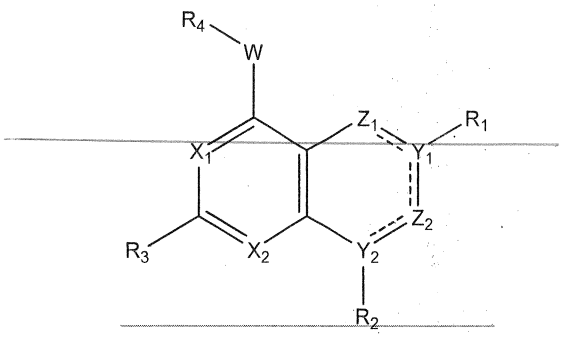
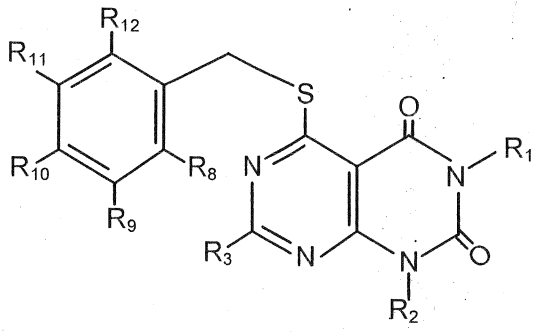
CLAIMS

1. A compound represented by the formula





wherein R_1 and R_2 are each independently H or C_{1-5} linear alkyl;

R3 is H, optionally substituted C_{2-6} linear alkyl, optionally substituted aryl, or optionally substituted heteroaryl;

R_8, R_9, R_{10}, R_{11},and R_{12} are independently R_c, OR_c, COR_c, CO_2R_c, $OCOR_c$, NR_cR_d, CF_3, CN, NO_2, F, Cl, Br, or I, wherein R_c and R_d are independently H or C_{1-3} alkyl.

~~wherein a dashed line represents the presence or absence of a bond;~~

~~W is selected from a bond, O, S, NR_1 or CR_aR_b;~~

~~X_1 is CR_5 or N;~~

~~X_2 is CR_6 or N;~~

~~R_a, R_b, R_1, R_2, R_3, R_4, R_5, and R_6 are each independently H, optionally substituted hydrocarbyl, optionally substituted aryl, or optionally substituted heteroaryl;~~

~~Y_1 and Y_2 are independently C or N; and,~~

~~Z_1 and Z_2 are independently CR_aR_b, C=O, COR_a, CNR_aR_b or $C=NR_a$.~~

~~2. A compound of claim 1, wherein W is S.~~

23. A compound of claim 1 ~~or 2~~, wherein R_1 is CH_3.

34. A compound of any one of the preceding claims, wherein R_2 is CH_3.

45. A compound of any one of the preceding claims, wherein R_3 is optionally substituted fur-2-yl.

~~6. A compound of any one of the preceding claims, wherein R_4 is optionally substituted benzyl.~~

~~7. A compound of any one of the preceding claims, wherein X_1 is N.~~

~~8. A compound of any one of the preceding claims, wherein X_2 is N.~~

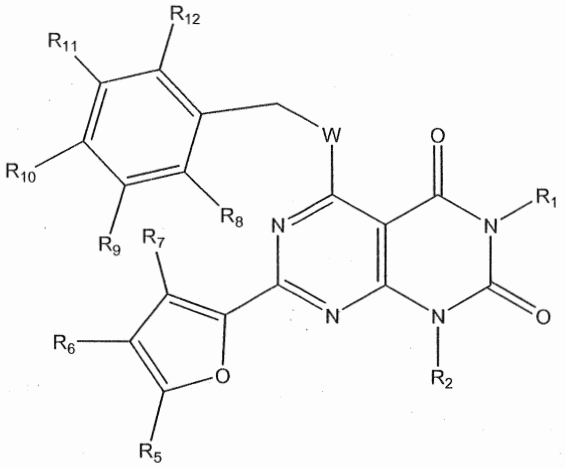
~~9. A compound of any one of the preceding claims, wherein Y_1 is N.~~

~~10. A compound of any one of the preceding claims, wherein Y_2 is N.~~

~~11. A compound of any one of the preceding claims, wherein Z_1 is C=O.~~

~~12. A compound of any one of the preceding claims, wherein Z_2 is C=O.~~

513. A compound of claim 1, further represented by the formula:



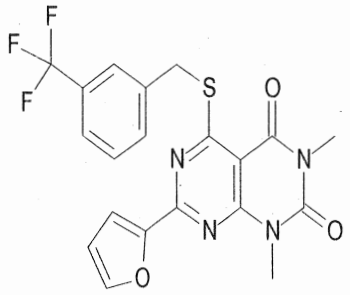
wherein R_1, R_2, R_5, R_6, R_7, R_8, R_9, R_{10}, R_{11},and R_{12} are independently R_c, OR_c, COR_c, CO_2R_c, $OCOR_c$, NR_cR_d, CF_3, CN, NO_2, F, Cl, Br, or I, wherein R_c and R_d are independently H or $C_{1\text{-}3}$ alkyl.

614. A compound of claim 513, wherein R_{11} is CF_3.

715. A compound of claim 5 13 or 614, wherein R_1 CH_3.

816. A compound of claim 513, 614, or 715, wherein R_2 is CH_3.

917. A compound of claim 1, wherein the compound is represented by the formula



1018. A pharmaceutical composition comprising a compound according to any one of claims 1-917.

1119. The use of a pharmaceutical composition according to claim 1018 in the manufacture of a medicament for treating or preventing a viral infection in a vertebrate.

1220. The use of claim 1119 wherein the viral infection is caused by a virus from one or more of the following families: Arenaviridae, Astroviridae, Birnaviridae, Bromoviridae, Bunyaviridae, Caliciviridae, Closteroviridae, Comoviridae, Cystoviridae, Flaviviridae, Flexiviridae, Hepevirus, Leviviridae, Luteoviridae, Mononegavirales, Mosaic Viruses, Nidovirales, Nodaviridae, Orthomyxoviridae, Picobirnavirus, Picornaviridae, Potyviridae, Reoviridae, Retroviridae, Sequiviridae, Tenuivirus, Togaviridae, Tombusviridae, Totiviridae, Tymoviridae, Hepadnaviridae, Herpesviridae, Paramyxoviridae or Papillomaviridae.

1321. The use of claim 1119 wherein the viral infection is influenza virus, Hepatitis C virus, West Nile virus, SARS-coronavirus, poliovirus, measles virus, Dengue virus, yellow fever virus, tick-borne encephalitis virus, Japanese encephalitis virus, St. Louis encephalitis virus, Murray Valley virus, Powassan virus, Rocio virus, louping-ill virus, Banzi virus, Ilheus virus, Kokobera virus, Kunjin virus, Alfuy virus, bovine diarrhea virus, Kyasanur forest disease virus or human immunodeficiency virus (HIV).

1422. The use of any one of claims 11-13 19-21 wherein the pharmaceutical composition is an adjuvant for a prophylactic or therapeutic vaccine.

1523. The use of claim 1422 wherein the medicament is administered in combination with a vaccine against influenza virus, Hepatitis C virus, West Nile virus, SARS-coronavirus, poliovirus, measles virus, Dengue virus, yellow fever virus, tick-borne encephalitis virus, Japanese encephalitis virus, St. Louis encephalitis virus, Murray Valley virus, Powassan virus, Rocio virus, louping-ill virus, Banzi virus, Ilheus virus, Kokobera virus, Kunjin virus, Alfuy virus, bovine diarrhea virus, Kyasanur forest disease virus or human immunodeficiency virus (HIV).

~~24. The use of a compound according to any one of claims 1-15 or a pharmaceutical composition according to claim 18 in the manufacture of a medicament for modulating the innate immune response in a eukaryotic cell.~~

1625. An *in vitro* method for modulating the innate immune response in a eukaryotic cell comprising administering to the cell a compound according to any one of claims 1-915 or a pharmaceutical composition according to claim 1018.