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(54) Title: NITROSATED AND NITROSYLATED CYCLOOXYGENASE-2 INHIBITORS, COMPOSITIONS AND METHODS OF USE

(57) Abstract: The present invention describes novel nitrosated and/or nitrosylated cyclooxygenase 2 (COX-2) inhibitors and novel compositions comprising at least one nitrosated and/or nitrosylated cyclooxygenase 2 (COX-2) inhibitor, and, optionally, at least one compound that donates, transfers or releases nitric oxide, stimulates endogenous synthesis of nitric oxide, elevates endogenous levels of endothelium-derived relaxing factor or is a substrate for nitric oxide synthase, and/or optionally, at least one therapeutic agent, such as, steroids, nonsteroidal antiinflammatory compounds (NSAID), 5-lipoxygenase (5-LO) inhibitors, leukotriene B₄ (LTB₄) receptor antagonists, leukotriene A₄ (LTA₄) hydrolase inhibitors, 5-HT agonists, 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) inhibitors, H₂ antagonists, antineoplastic agents, antiplatelet agents, decongestants, diuretics, sedating or non-sedating anti-histamines, inducible nitric oxide synthase inhibitors, opioids, analgesics, *Helicobacter pylori* inhibitors, proton pump inhibitors, isoprostane inhibitors, and mixtures thereof. The present invention also provides novel compositions comprising at least one parent COX-2 inhibitor and at least one nitric oxide donor, and, optionally, at least one therapeutic agent. The present invention also provides kits and methods for treating inflammation, pain and fever; for treating and/or improving the gastrointestinal properties of COX-2 inhibitors; for facilitating wound healing; for treating and/or preventing renal toxicity; and for treating and/or preventing other disorders resulting from elevated levels of cyclooxygenase-2.

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