IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Louisiana State University	Confirmation No.: 1007
Serial No.:	17/984,011	Group No.: 1626
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Entitled: COMPOSITIONS AND METHODS TO REDUCE PATHOGENESIS

THIRD-PARTY PRE-ISSUANCE SUBMISSION

Examiner:

The following documents, which are also identified in the Form PTO/SB/429 filed herewith, are submitted for your consideration as being of potential relevance to the examination of the present application.

1. Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015)
2. MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407.
3. NAU (2015) "Ma" American Journal of Physiology-Lung Cellular and Molecular Physiology. Vol 308 (2):191-198.
4. SHARIF (2010) "Serotonin-2 receptor agonists as novel hypotensive agents and their cellular and molecular mechanisms of action" Current Drug Targets. Vol 11 (8):978-993.
5. Int'l Pat. App. Pub. No. WO/2006/078610 "DIARYL AND ARYLHETEROARYL UREA DERIVATIVES AS MODULATORS OF THE 5-HT2A SEROTONIN RECEPTOR USEFUL FOR THE PROPHYLAXIS OR TREATMENT OF PROGRESSIVE MULTIFOCAL LEUKOENCEPHALOPATHY" (Published July 27, 2006)
6. SHACKLETON (2006) "JC Virus Evolution and Its Association with Human Populations" Journal of Virology. Vol 80 (20): 9928-9933.
7. PASSIE (2002) "The Pharmacology of Psilocybin" Addiction Biology. 7 (4): 357-364.
8. Int'l Pat. App. No. WO/2016/16113 "ANTIVIRAL ACTIVITY FROM MEDICINAL MUSHROOMS AND THEIR ACTIVE CONSTITUENTS" (Published October 6, 2016)

9. BURRILL (2013) “Global RNA Structure Analysis of Poliovirus Identifies a Conserved RNA Structure Involved in Viral Replication and Infectivity” Journal of Virology. 87 (21): 11670-11683.
10. BRUNO (1991) “Polioencephalitis, Stress, and the Etiology of Post-Polio Sequelae” Orthopedics. 14 (11): 1269-1276.
11. WEINSTEIN (1957) “Cardiovascular Disturbances in Poliomyelitis” AHA Journals. 15 (5): 735-756.
12. SHULGIN (1990) “PIKHAL - 67” Publisher: Transform Press ISBN: 978-0963009609
13. GUIO (2014) “White Matter Edema at the Early Stages of Cerebral Autosomal-Dominant Arteriopathy with Subcortical Infarcts and Leukoencephalopathy” Stroke. 2015 (46): 258-261.
14. RUCHOUX (1995) “Systemic Vascular Smooth Muscle Cell Impairment in Cerebral Autosomal Dominant Arteriopathy with Subcortical Infarcts and Leukoencephalopathy” Acta Neuropathologica. 89: 500-512.
15. Int’l Pat. App. No. WO/2016/055790 “N-PYRIDINYL ACETAMINE DERIVATES AS WNT SIGNALING PATHWAY INHIBITORS” (Published April 14, 2016)
16. PASSIE (2008) “The Pharmacology of Lysergic Acid Diethylamide: A Review” CNS Neuroscience & Therapeutics. 1
17. Int’l Pat. App. No. WO/2015/195989 “ENTERIC SOFT CAPSULE COMPOSITIONS” (Published December 23, 2015)
18. #6 DMT (2011) “N,N-Dimethyltryptamine” Isomer Design. Retrieved from March 7, 2016. URL: https://web.archive.org/web/20160307021701/http://isomerdesign.com/PiHKAL/read.php?id=6&domain=tk
19. Int’l Pat. App. No. WO/2015/090583 “SYSTEM FOR THE TRANSDERMAL DELIVERY OF AN ACTIVE INGREDIENT” (Published June 25, 2015)
20. SMITH (1998) “Agonist Properties of *N,N*-Dimethyltryptamine at Serotonin 5-HT2A and 5-HT2C Receptors” Pharmacology Biochemistry and Behavior. 61 (3): 323-330.
21. Int’l Pat. App. No. WO/2014/096873 “BIOMARKERS IN INFLAMMATORY BOWEL DISEASE” (Published June 26, 2014)
22. BROWN (2013) “Human Papillomavirus in Older Women: New Infection or Reactivation?” Journal of Infectious Diseases. 207 (2): 211-212.

Attached hereto is a claim chart providing a concise description of the relevance of each reference in the document list to the elements of the presently pending claims.

U.S.S.N. 18/196,992 Pending Claims	References

1. A method of reducing or ameliorating vascularization-associated pathology in a non-ocular tissue of a subject, the method comprising administering to the subject afflicted with a disease associated with tissue vascularization-associated pathology a therapeutically effective amount of a composition comprising a serotonin receptor agonist.	***From the application of interest 17/984,011 paragraph [0010]*** *"In embodiments, vascularization-associated pathologies comprise neovascularization; angiogenesis, for example that of blood vessels or that of lymphatics; vasoconstriction or vasodialation, for example that of blood vessels or that of lymphatics; vascular leakage, vascular permeability, edema, hypertension;* ***ischemia****; vascular occlusions; haemmoraghing, and increased hypersensitivity reactions or disorders."* 1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015) From **page 1, paragraph 1**: This invention relates to **compositions comprising halogen and/or chalcogenide compounds**, including those comprising a halogen and/or a chalcogen compound in a reduced form, e.g. halides and/or chalcogenides, and methods **for treating or preventing injuries and diseases, including diseases and injuries associated with hypoxia, ischemia or reperfusion injury and/or the formation of reactive oxygen species**, e.g., heart attack, chronic heart failure, diseases and injuries associated with excessive metabolic rate, e.g., **epilepsy**, and diseases and injuries associated with an undesired immune or inflammatory response, e.g., graft versus host disease (GVHD) or organ transplant. The present invention also relates to methods for reducing or inhibiting an immune response, using a composition comprising a halide and/or a chalcogenide compound. From **page 36, paragraph 3**: In some embodiments, said halogen compound is an organoiodide comprising of one or more compounds...**2,5-Dimethoxy-4-iodoamphetamine.** 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors."
2. The method of claim 1, wherein the tissue comprises an immunologically-restricted tissue.	***From the application of interest 17/984,011 paragraph [0012]*** *"In embodiments,* ***the tissue comprises an*** *immunologically-restricted tissue. Non-limiting examples of immunologically-restricted tissues comprise tissues of the lung, skin,* ***brain,*** *eyes, gut or combination thereof."* 1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015) From **page 1**: This invention relates to **compositions comprising halogen and/or chalcogenide compounds**, including those comprising a halogen and/or a chalcogen compound in a reduced form, e.g. halides and/or chalcogenides, and methods **for treating or preventing injuries and diseases, including diseases and injuries associated with hypoxia, ischemia or reperfusion injury and/or the formation of reactive oxygen**

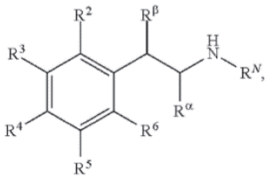
	species, e.g., heart attack, chronic heart failure, diseases and injuries associated with excessive metabolic rate, e.g., **epilepsy**, and diseases and injuries associated with an undesired immune or inflammatory response, e.g., graft versus host disease (GVHD) or organ transplant. The present invention also relates to methods for reducing or inhibiting an immune response, using a composition comprising a halide and/or a chalcogenide compound. From **page 36, paragraph 3**: In some embodiments, said halogen compound is an organoiodide comprising of one or more compounds...**2,5-Dimethoxy-4-iodoamphetamine.** 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors."
3. A method of reducing or ameliorating a hypersensitivity or a hypersensitivity-associated disease process in an immunologically-restricted tissue of a subject, the method comprising administering to a subject afflicted with a hypersensitivity or a hypersensitivity-associated disease process in an immunologically-restricted tissue a therapeutically effective amount of a composition comprising a serotonin receptor agonist.	***From the application of interest 17/984,011 paragraph [0240]*** *"Hypersensitivity refers to a set of undesirable reactions produced by a subject's normal immune system. For example,* ***hypersensitivity can refer to an over-reaction of the immune system of a subject, and such over reaction can be damaging or uncomfortable****."* *From the application of interest 17/984,011 paragraph [0246]* *"Other embodiments can comprise* ***Type I hypersensitivities****."* *From the application of interest 17/984,011 paragraph [0012]* *"In embodiments, the tissue comprises an immunologically-restricted tissue. Non-limiting examples of* ***immunologically-restricted tissues comprise*** *tissues of the* ***lung,*** *skin, brain, eyes, gut or combination thereof."* 2.MACKOWIAK (2002) "DOI, an **agonist of 5-HT2A/2C serotonin receptor**, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors." 3.NAU (2015) "**Serotonin 5-HT2 receptor activation prevents allergic asthma** in a mouse model" American Journal of Physiology-Lung Cellular and Molecular Physiology. Vol 308 (2):191-198. From **page 16, paragraph 3**: "**We have identified an important and new functional role of 5-HT2A receptors in the lung**. **(R)-DOI activation of serotonin 5-HT2 receptors potentially prevents the development of a clinically relevant mouse model of allergic asthma** at drug levels far below those necessary to invoke adverse cardiovascular or behavioral effects."

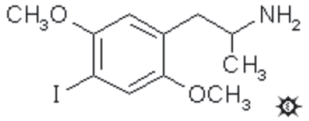
4. A method of treating a vascularization-associated non-ocular disease in a subject, the method comprising administering to a subject afflicted with a vascularization-associated disease a therapeutically effective amount of a composition comprising a serotonin receptor agonist.	***From the application of interest 17/984,011 paragraph [0010]*** *"In embodiments, vascularization-associated pathologies comprise neovascularization; angiogenesis, for example that of blood vessels or that of lymphatics; vasoconstriction or vasodialation, for example that of blood vessels or that of lymphatics; vascular leakage, vascular permeability, edema, hypertension;* ***ischemia;*** *vascular occlusions; haemmoraghing, and increased hypersensitivity reactions or disorders."* 1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015) From **page 1**: This invention relates **to compositions comprising halogen and/or chalcogenide compounds**, including those comprising a halogen and/or a chalcogen compound in a reduced form, e.g. halides and/or chalcogenides, and methods **for treating or preventing injuries and diseases, including diseases and injuries associated with hypoxia, ischemia or reperfusion injury and/or the formation of reactive oxygen species, e.g., heart attack, chronic heart failure, diseases and injuries associated with excessive metabolic rate, e.g., epilepsy, and diseases and injuries associated with an undesired immune or inflammatory response, e.g., graft versus host disease (GVHD) or organ transplant**. The present invention also relates to methods for reducing or inhibiting an immune response, using a composition comprising a halide and/or a chalcogenide compound. From **page 34**: In some embodiments, **said halogen compound is an organoiodide comprising** of one or more compounds...**2,5-Dimethoxy-4-iodoamphetamine.** 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors."
5. A method of treating a hypersensitivity-associated ocular disease in a subject, the method comprising administering to a subject afflicted with a hypersensitivity-associated ocular disease a therapeutically effective amount of a composition	*From the application of interest 17/984,011 paragraph [0249] "Non-limiting examples of hypersensitivity processes that contribute to disease of the eye comprise ...* ***increased intraocular pressure****..."* 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors." 4.SHARIF (2010) "Serotonin-2 receptor agonists as novel hypotensive agents and their cellular and molecular mechanisms of action" Current Drug Targets. Vol 11 (8):978-993.

comprising a serotonin receptor agonist.	From **abstract**: "In an effort to delineate the role of the serotonergic system in modulating **intraocular pressure (IOP)** ... Functional **5HT(2A) receptors are present in human ocular cells involved in IOP reduction and this correlates with the ability of 5HT(2A) agonists to lower IOP in Cynomolgus monkeys**, a surrogate for human subjects."
6. The method of claim 2, wherein the immunologically-restricted tissue comprises a tissue of the lung, skin, brain, or a combination thereof.	1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015) From **page 1, paragraph 1**: This invention relates to **compositions comprising halogen and/or chalcogenide compounds**, including those comprising a halogen and/or a chalcogen compound in a reduced form, e.g. halides and/or chalcogenides, and methods **for treating or preventing injuries and diseases, including diseases and injuries associated with hypoxia, ischemia or reperfusion injury and/or the formation of reactive oxygen species**, e.g., heart attack, chronic heart failure, diseases and injuries associated with excessive metabolic rate, e.g., **epilepsy**, and diseases and injuries associated with an undesired immune or inflammatory response, e.g., graft versus host disease (GVHD) or organ transplant. The present invention also relates to methods for reducing or inhibiting an immune response, using a composition comprising a halide and/or a chalcogenide compound. From **page 36, paragraph 3**: In some embodiments, said halogen compound is an organoiodide comprising of one or more compounds...**2,5-Dimethoxy-4-iodoamphetamine.** 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors." 3.NAU (2015) "Serotonin 5-HT2 receptor activation prevents allergic asthma in a mouse model" American Journal of Physiology-Lung Cellular and Molecular Physiology. Vol 308 (2):191-198. From **page 16, paragraph 3**: "**W**e have identified an important and new functional role of 5-HT2A receptors in the lung. **(R)-DOI activation of serotonin 5-HT2 receptors potentially prevents the development of a clinically relevant mouse model of allergic asthma** at drug levels far below those necessary to invoke adverse cardiovascular or behavioral effects."
7. The method of claim 2 or 3, wherein an immunologically-	*From the application of interest 17/984,011 paragraph [0012] "In embodiments, the tissue comprises an immunologically-restricted tissue. Non-limiting examples of immunologically-restricted tissues comprise tissues of the lung, skin, **brain**, eyes, gut or combination thereof."*

restricted tissue is infected.	*From the application of interest 17/984,011 paragraph **[0026]** "**Non-limiting examples of pathogenesis of the brain comprise** demyelination, neural inflammation, **encephalitis**, meningitis, viral reactivation from latent neurons, or a combination thereof."* 5.Int'l Pat. App. Pub. No. WO/2006/078610 "DIARYL AND ARYLHETEROARYL UREA DERIVATIVES AS MODULATORS OF THE 5-HT2A SEROTONIN RECEPTOR USEFUL FOR THE PROPHYLAXIS OR TREATMENT OF PROGRESSIVE MULTIFOCAL LEUKOENCEPHALOPATHY" (Published July 27, 2006) From **field of the invention**: "**Formula J and pharmaceutical compositions thereof modulate the activity of the 5-HT_{2A} serotonin receptor. Compounds and pharmaceutical compositions thereof are directed to methods useful for the prophylaxis or treatment of progressive multifocal leukoencephalopathy."**
8. The method of claim 7, wherein the infection comprises a viral infection, a bacterial infection, a fungal infection, a protozoan infection, or a combination thereof.	*From the application of interest 17/984,011 paragraph [0012] "In embodiments, the tissue comprises an immunologically-restricted tissue. Non-limiting examples of immunologically-restricted tissues comprise tissues of the lung, skin, **brain**, eyes, gut or combination thereof."* *From the application of interest 17/984,011 paragraph [0026] "Non-limiting examples of pathogenesis of the brain comprise demyelination, neural inflammation, encephalitis, meningitis, viral reactivation from latent neurons, or a combination thereof."* 5.Int'l Pat. App. Pub. No. WO/2006/078610 "DIARYL AND ARYLHETEROARYL UREA DERIVATIVES AS MODULATORS OF THE 5-HT2A SEROTONIN RECEPTOR USEFUL FOR THE PROPHYLAXIS OR TREATMENT OF PROGRESSIVE MULTIFOCAL LEUKOENCEPHALOPATHY" (Published July 27, 2006) From **field of the invention**: "**Formula J and pharmaceutical compositions thereof modulate the activity of the 5-HT_{2A} serotonin receptor. Compounds and pharmaceutical compositions thereof are directed to methods useful for the prophylaxis or treatment of progressive multifocal leukoencephalopathy."**
9. The method of claim 7 or 38, wherein a DNA virus causes infection.	*From the application of interest 17/984,011 paragraph [0012] "In embodiments, the tissue comprises an immunologically-restricted tissue. Non-limiting examples of immunologically-restricted tissues comprise tissues of the lung, skin, **brain**, eyes, gut or combination thereof."* *From the application of interest 17/984,011 paragraph [0026] "Non-limiting examples of pathogenesis of the brain comprise demyelination, neural inflammation, **encephalitis**, meningitis, viral reactivation from latent neurons, or a combination thereof."* 6.SHACKLETON (2006) "JC Virus Evolution and Its Association with Human Populations" Journal of Virology. Vol 80 (20): 9928-9933.

	From **abstract**: "**The ubiquitous human polyomavirus JC (JCV) is a small double-stranded DNA virus** that establishes a persistent infection... **While 20 to 80% of adults continuously excrete JCV in their urine**, almost all infections are benign, **only causing the demyelating neurological disease progressive multifocal leukoencephalopathy in immunocompromised patients**." 5.Int'l Pat. App. Pub. No. WO/2006/078610 "DIARYL AND ARYLHETEROARYL UREA DERIVATIVES AS MODULATORS OF THE 5-HT2A SEROTONIN RECEPTOR USEFUL FOR THE PROPHYLAXIS OR TREATMENT OF PROGRESSIVE MULTIFOCAL LEUKOENCEPHALOPATHY" (Published July 27, 2006) From **field of the invention**: "**Formula J and pharmaceutical compositions thereof modulate the activity of the 5-HT_{2A} serotonin receptor. Compounds and pharmaceutical compositions thereof are directed to methods useful for the prophylaxis or treatment of progressive multifocal leukoencephalopathy."**
10. The method of claim 7 or 38, wherein a RNA virus causes infection.	*From the application of interest 17/984,011 paragraph [0012] "In embodiments, the tissue comprises an immunologically-restricted tissue. Non-limiting examples of immunologically-restricted tissues comprise tissues of the lung, skin,* ***brain,*** *eyes, gut or combination thereof."* *From the application of interest 17/984,011 paragraph [0026] "Non-limiting examples of pathogenesis of the brain comprise demyelination, neural inflammation,* ***encephalitis****, meningitis, viral reactivation from latent neurons, or a combination thereof."* 7.PASSIE (2002) "The Pharmacology of Psilocybin" Addiction Biology. 7 (4): 357-364. From **page 362**: "**The effects of psilocybin are mediated mainly via activation of presynaptic 5HT2A receptors."** 8.Int'l Pat. App. No. WO/2016/161138 "ANTIVIRAL ACTIVITY FROM MEDICINAL MUSHROOMS AND THEIR ACTIVE CONSTITUENTS" (Published October 6, 2016) From **Claim 59**: "**A pharmaceutical composition produced by the method of claim 57 wherein the composition additionally comprises psilocybin**, psilocin, 4-acetoxy dimethyltryptamine, baeocystin, or nor-baeocystin." From **Claim 57**: "A pharmaceutical composition produced by the means of claim 56." From **Claim 56**: "**A means for preparing a composition comprising one or more of** ethyl 7-chloro- 2-oxo-4-phenyl-2H-chromen-3-carboxylate, **vanillic acid**, chrysin, quercetin hydrate, rutin hydrate, syringic acid, trans-cinnamic acid, trans-ferulic acid, salts thereof, esters thereof, **or**

	combinations thereof comprising isolating, purifying, synthesizing or manufacturing the molecules and combining in various ratios from 1 : 1 to 99: 1 by weight percentage, including all integers within the specified ratio range, or combining any FDA approved ingredients." From **[0019]**: "**One embodiment described herein is a method for treating a pathogenic virus infection comprising: administering a therapeutically effective amount of a composition to a patient** (a patient may be human or animal) **suffering from the pathogenic virus infection**, **wherein the composition comprises one or more of** ethyl 7-chloro-2-oxo-4-phenyl-2H-chromen-3-carboxylate, **vanillic acid**..." 9.BURRILL (2013) "Global RNA Structure Analysis of Poliovirus Identifies a Conserved RNA Structure Involved in Viral Replication and Infectivity" Journal of Virology. 87 (21): 11670-11683. From **Introduction**: "**Poliovirus**, the prototypical picornavirus and causative agent of poliomyelitis, **is a nonenveloped virus with a single-stranded RNA genome of positive polarity**." 10.BRUNO (1991) "Polioencephalitis, Stress, and the Etiology of Post-Polio Sequelae" Orthopedics. 14 (11): 1269-1276. From **Abstract**: "**Post-mortem neurohistopathologies that document polio virus-induced lesions in reticular formation and hypothalamic, thalamic, peptidergic, and monoaminergic neurons in the brain** are reviewed from 158 individuals who contracted polio before 1950. This **polioencephalitis was found to occur in every case of poliomyelitis, even those without evidence of damage to spinal motor neurons**." 11.WEINSTEIN (1957) "Cardiovascular Disturbances in Poliomyelitis" AHA Journals. 15 (5): 735-756. From **Page 735**: "**Dysfunction of organs other than the nervous system is relatively common**; in many instances it is secondary to damage of neural structures, in some it may result from direct viral invasion or secondary bacterial infection, and in others more than one mechanism may be responsible. The situations that threaten life in poliomyelitis most seriously and are the most difficult to control arise not infrequently from such involvement. Thus, secondary bacterial invasion of the broncho- pulmonary tissues in the "respirator patient," acute ulcerations of the gastrointestinal tract with hemorrhage or perforation, infection of the urinary tract, **or a variety of cardiovascular abnormalities**..."
11. The method of claim 1, 3, 4, 5, or 38 wherein the serotonin receptor agonist comprises a compound of formula (I), formula (II), or formula (III)	*From the application of interest 17/984,011,* ***Claim 11*** formula (II) 

	12.SHULGIN (1990) "PIKHAL - 67" Publisher: Transform Press ISBN: 978-0963009609 From **Chapter 67**:  *From the application of interest 17/984,011 paragraph* ***[0010]*** *"**In embodiments**, **vascularization-associated pathologies comprise** neovascularization; angiogenesis, for example that of blood vessels or that of lymphatics; vasoconstriction or vasodilation, for example that of blood vessels or that of lymphatics; vascular leakage, vascular permeability, edema, hypertension; **ischemia**; vascular occlusions; haemmoraghing, and increased hypersensitivity reactions or disorders."* 1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015) From **page 1, paragraph 1**: This invention relates to **compositions comprising halogen and/or chalcogenide compounds**, including those comprising a halogen and/or a chalcogen compound in a reduced form, e.g. halides and/or chalcogenides, and methods **for treating or preventing injuries and diseases, including** diseases and injuries associated with hypoxia, **ischemia** or reperfusion injury and/or the formation of reactive oxygen species, e.g., heart attack, chronic heart failure, diseases and injuries associated with excessive metabolic rate, e.g., epilepsy, and diseases and injuries associated with an undesired immune or inflammatory response, e.g., graft versus host disease (GVHD) or organ transplant. The present invention also relates to methods for reducing or inhibiting an immune response, using a composition comprising a halide and/or a chalcogenide compound. From **page 36, paragraph 3**: In some embodiments, said halogen compound is an organoiodide comprising of one or more compounds...**2,5-Dimethoxy-4-iodoamphetamine.** 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors."
12. The method of claim 1, 3, 4, 5, or 38 wherein the serotonin receptor agonist	*From the application of interest 17/984,011 paragraph [0010] "In embodiments, vascularization-associated pathologies comprise neovascularization; angiogenesis, for example that of blood vessels or that of lymphatics; vasoconstriction or vasodilation, for example that of blood*

comprises 2,5-Dimethoxy-4-iodoamphetamine (DOI).	*vessels or that of lymphatics; vascular leakage, vascular permeability, edema, hypertension;* ***ischemia****; vascular occlusions; haemmoraghing, and increased hypersensitivity reactions or disorders."* 1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015) From **page 1, paragraph 1**: This invention relates to **compositions comprising halogen and/or chalcogenide compounds**, including those comprising a halogen and/or a chalcogen compound in a reduced form, e.g. halides and/or chalcogenides, and methods **for treating or preventing injuries and diseases, including diseases and injuries associated with hypoxia, ischemia or reperfusion injury and/or the formation of reactive oxygen species**, e.g., heart attack, chronic heart failure, diseases and injuries associated with excessive metabolic rate, e.g., **epilepsy**, and diseases and injuries associated with an undesired immune or inflammatory response, e.g., graft versus host disease (GVHD) or organ transplant. The present invention also relates to methods for reducing or inhibiting an immune response, using a composition comprising a halide and/or a chalcogenide compound. From **page 36, paragraph 3**: In some embodiments, said halogen compound is an organoiodide comprising of one or more compounds...**2,5-Dimethoxy-4-iodoamphetamine.** 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors."
13. The method of claim 1, 3, 4, 5, or 38 wherein the method comprises a low dose of the serotonin receptor agonist.	*From the application of interest 17/984,011 paragraph [0010] "In embodiments, vascularization-associated pathologies comprise neovascularization; angiogenesis, for example that of blood vessels or that of lymphatics; vasoconstriction or vasodilation, for example that of blood vessels or that of lymphatics; vascular leakage, vascular permeability, edema, hypertension;* ***ischemia****; vascular occlusions; haemmoraghing, and increased hypersensitivity reactions or disorders."* 1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015) From **page 1, paragraph 1**: This invention relates to **compositions comprising halogen and/or chalcogenide compounds**, including those comprising a halogen and/or a chalcogen compound in a reduced form, e.g. halides and/or chalcogenides, and methods **for treating or preventing injuries and diseases, including diseases and injuries associated with hypoxia, ischemia or reperfusion injury and/or the formation of reactive oxygen species**, e.g., heart attack, chronic heart failure, diseases

	and injuries associated with excessive metabolic rate, e.g., **epilepsy**, and diseases and injuries associated with an undesired immune or inflammatory response, e.g., graft versus host disease (GVHD) or organ transplant. The present invention also relates to methods for reducing or inhibiting an immune response, using a composition comprising a halide and/or a chalcogenide compound. From **page 36, paragraph 3**: In some embodiments, said halogen compound is an organoiodide comprising of one or more compounds...**2,5-Dimethoxy-4-iodoamphetamine.** 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors."
14. The method of claim 1, 3, 4, 5, or 38 wherein the composition further comprises at least one antimicrobial agent, at least one anti-pathogenic agent, at least one drug, or a combination thereof.	1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015) From **page 1**: This invention relates **to compositions comprising halogen and/or chalcogenide compounds**, including those comprising a halogen and/or a chalcogen compound in a reduced form, e.g. halides and/or chalcogenides, and methods **for treating or preventing injuries and diseases, including diseases and injuries associated with** hypoxia**, ischemia** or reperfusion injury and/or the formation of reactive oxygen species, e.g., heart attack, chronic heart failure, diseases and injuries associated with excessive metabolic rate, e.g., epilepsy, and diseases and injuries associated with an undesired immune or inflammatory response, e.g., graft versus host disease (GVHD) or organ transplant. The present invention also relates to methods for reducing or inhibiting an immune response, using a composition comprising a halide and/or a chalcogenide compound. From **page 36, paragraph 3**: In some embodiments, said halogen compound is an organoiodide comprising of one or more compounds...**2,5-Dimethoxy-4-iodoamphetamine.** 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors."
15. The method of claim 14, wherein the antimicrobial agent	7.PASSIE (2002) "The Pharmacology of Psilocybin" Addiction Biology. 7 (4): 357-364.

comprises an antiviral agent, an antibacterial agent, an antifungal agent, an antiprotozoal agent, or a combination thereof.	From **page 362**: "**The effects of psilocybin are mediated mainly via activation of presynaptic 5HT2A receptors."** 8.Int'l Pat. App. No. WO/2016/161138 "ANTIVIRAL ACTIVITY FROM MEDICINAL MUSHROOMS AND THEIR ACTIVE CONSTITUENTS" (Published October 6, 2016) From **Claim 59**: "**A pharmaceutical composition produced by the method of claim 57 wherein the composition additionally comprises psilocybin**, psilocin, 4-acetoxy dimethyltryptamine, baeocystin, or nor-baeocystin." From **Claim 57**: "A pharmaceutical composition produced by the means of claim 56." From **Claim 56**: "**A means for preparing a composition comprising one or more of** ethyl 7-chloro- 2-oxo-4-phenyl-2H-chromen-3-carboxylate, **vanillic acid**, chrysin, quercetin hydrate, rutin hydrate, syringic acid, trans-cinnamic acid, trans-ferulic acid, salts thereof, esters thereof, or combinations thereof comprising isolating, purifying, synthesizing or manufacturing the molecules and combining in various ratios from 1 : 1 to 99: 1 by weight percentage, including all integers within the specified ratio range, or combining any FDA approved ingredients." From **[0019]**: "**One embodiment described herein is a method for treating a pathogenic virus infection comprising: administering a therapeutically effective amount of a composition to a patient** (a patient may be human or animal) **suffering from the pathogenic virus infection**, **wherein the composition comprises one or more of** ethyl 7-chloro-2-oxo-4-phenyl-2H-chromen-3-carboxylate, **vanillic acid**..."
16. The method of claim 1, 3, 4, 5, or 38, wherein the serotonin receptor comprises the 5-HT2A serotonin receptor.	*From the application of interest 17/984,011 paragraph [0010] "In embodiments, vascularization-associated pathologies comprise neovascularization; angiogenesis, for example that of blood vessels or that of lymphatics; vasoconstriction or vasodilation, for example that of blood vessels or that of lymphatics; vascular leakage, vascular permeability, edema, hypertension;* ***ischemia****; vascular occlusions; haemmoraghing, and increased hypersensitivity reactions or disorders."* 1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015) From **page 1, paragraph 1**: This invention relates to **compositions comprising halogen and/or chalcogenide compounds**, including those comprising a halogen and/or a chalcogen compound in a reduced form, e.g. halides and/or chalcogenides, and methods **for treating or preventing injuries and diseases, including diseases and injuries associated with hypoxia, ischemia or reperfusion injury and/or the formation of reactive oxygen species**, e.g., heart attack, chronic heart failure, diseases and injuries associated with excessive metabolic rate, e.g., **epilepsy**, and diseases and injuries associated with an undesired immune or inflammatory response, e.g., graft versus host disease (GVHD) or organ transplant. The

	present invention also relates to methods for reducing or inhibiting an immune response, using a composition comprising a halide and/or a chalcogenide compound. From **page 36, paragraph 3**: In some embodiments, said halogen compound is an organoiodide comprising of one or more compounds...**2,5-Dimethoxy-4-iodoamphetamine.** 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors."
17. The method of claim 7, wherein the infection causes pathogenesis in at least one tissue of the subject.	*From the application of interest 17/984,011 paragraph [0012]* *"In embodiments, the tissue comprises an immunologically-restricted tissue. Non-limiting examples of immunologically-restricted tissues comprise tissues of the lung, skin, **brain**, eyes, gut or combination thereof."* 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors." 5.Int'l Pat. App. Pub. No. WO/2006/078610 "DIARYL AND ARYLHETEROARYL UREA DERIVATIVES AS MODULATORS OF THE 5-HT2A SEROTONIN RECEPTOR USEFUL FOR THE PROPHYLAXIS OR TREATMENT OF PROGRESSIVE MULTIFOCAL LEUKOENCEPHALOPATHY" (Published July 27, 2006) From **field of the invention**: "**Formula J and pharmaceutical compositions thereof modulate the activity of the 5-HT_{2A} serotonin receptor. Compounds and pharmaceutical compositions thereof are directed to methods useful for the prophylaxis or treatment of progressive multifocal leukoencephalopathy."**
18. The method of claim 17, wherein the pathogenesis comprises angiogenesis, neovascularization, hypersensitivity, vascular leakage, vascular permeability, edema, lymphangiogenesis,	*From the application of interest 17/984,011 paragraph [0012]* *"In embodiments, the tissue comprises an immunologically-restricted tissue. Non-limiting examples of immunologically-restricted tissues comprise tissues of the lung, skin, **brain**, eyes, gut or combination thereof."* 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407.

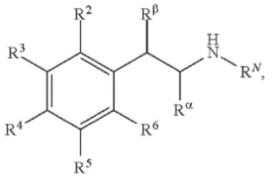
hypertension, or a combination thereof	From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors." 5.Int'l Pat. App. Pub. No. WO/2006/078610 "DIARYL AND ARYLHETEROARYL UREA DERIVATIVES AS MODULATORS OF THE 5-HT2A SEROTONIN RECEPTOR USEFUL FOR THE PROPHYLAXIS OR TREATMENT OF PROGRESSIVE MULTIFOCAL LEUKOENCEPHALOPATHY" (Published July 27, 2006) From **field of the invention**: "**Formula J and pharmaceutical compositions thereof modulate the activity of the 5-HT_{2A} serotonin receptor. Compounds and pharmaceutical compositions thereof are directed to methods useful for the prophylaxis or treatment of progressive multifocal leukoencephalopathy."** 13.GUIO (2014) "White Matter Edema at the Early Stages of Cerebral Autosomal-Dominant Arteriopathy With Subcortical Infarcts and Leukoencephalopathy" Stroke. 2015 (46): 258-261. From **Background and Purpose**: "**Recently, in a mouse model of cerebral autosomal-dominant arteriopathy with** subcortical infarcts and **leukoencephalopathy**, a monogenic cerebral small vessel disease, **intramyelinic edema was detected** in the white matter"
19. The method of claim 17, wherein the pathogenesis affects a tissue of the eye, lung, skin, brain, or a combination thereof.	*From the application of interest 17/984,011 paragraph [0012]* *In embodiments, the tissue comprises an immunologically-restricted tissue. Non-limiting examples of immunologically-restricted tissues comprise tissues of the lung, skin, **brain**, eyes, gut or combination thereof."* 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors." 5.Int'l Pat. App. Pub. No. WO/2006/078610 "DIARYL AND ARYLHETEROARYL UREA DERIVATIVES AS MODULATORS OF THE 5-HT2A SEROTONIN RECEPTOR USEFUL FOR THE PROPHYLAXIS OR TREATMENT OF PROGRESSIVE MULTIFOCAL LEUKOENCEPHALOPATHY" (Published July 27, 2006) From **field of the invention**: "**Formula J and pharmaceutical compositions thereof modulate the activity of the 5-HT_{2A} serotonin receptor. Compounds and pharmaceutical compositions thereof are directed to methods useful for the prophylaxis or treatment of progressive multifocal leukoencephalopathy."**

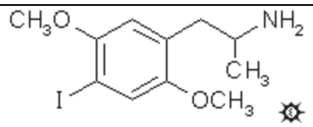
	14.RUCHOUX (1995) "Systemic Vascular Smooth Muscle Cell Impairment in Cerebral Autosomal Dominant Arteriopathy with Subcortical Infarcts and Leukoencephalopathy" Acta Neuropathologica. 89: 500-512. From **Abstract**: "**Cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy (CADASIL) is characterized by a cerebral non-atherosclerotic, non-amyloid angiopathy mainly affecting the small arteries penetrating the white matter**."
20. The method of claim 1 or 4, wherein vascularization-associated pathologies comprises angiogenesis of blood vessels, angiogenesis of lymphatic vessels, vascular leakage, vascular permeability, vasoconstriction, vasodilation, vascular occlusions, hypertension, edema, ischemia, or a combination thereof.	1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015) From **page 1, paragraph 1**: "This invention relates to **compositions comprising halogen and/or chalcogenide compounds**, including those comprising a halogen and/or a chalcogen compound in a reduced form, e.g. halides and/or chalcogenides, and methods **for treating or preventing injuries and diseases, including diseases and injuries associated with hypoxia, ischemia or reperfusion injury and/or the formation of reactive oxygen species**, e.g., heart attack, chronic heart failure, diseases and injuries associated with excessive metabolic rate, e.g., epilepsy, and diseases and injuries associated with an undesired immune or inflammatory response, e.g., graft versus host disease (GVHD) or organ transplant. The present invention also relates to methods for reducing or inhibiting an immune response, using a composition comprising a halide and/or a chalcogenide compound." From **page 36, paragraph 3**: "In some embodiments, said halogen compound is an organoiodide comprising of one or more compounds...**2,5-Dimethoxy-4-iodoamphetamine."** 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors."
21. A composition comprising at least one serotonin receptor agonist and at least one antimicrobial agent selected from an antibacterial agent, an antifungal agent, and an antiprotozoal agent.	1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015) From **page 1, paragraph 1**: "This invention relates to **compositions comprising halogen and/or chalcogenide compounds**, including those comprising a halogen and/or a chalcogen compound in a reduced form, e.g. halides and/or chalcogenides, and methods **for treating or preventing injuries and diseases, including diseases and injuries associated with hypoxia, ischemia or reperfusion injury and/or the formation of reactive oxygen species**, e.g., heart attack, chronic heart failure, diseases and injuries associated with excessive metabolic rate, e.g., epilepsy, and

	diseases and injuries associated with an undesired immune or inflammatory response, e.g., graft versus host disease (GVHD) or organ transplant. The present invention also relates to methods for reducing or inhibiting an immune response, using a composition comprising a halide and/or a chalcogenide compound." From **page 36, paragraph 3**: "In some embodiments, said halogen compound is an organoiodide comprising of one or more compounds...**2,5-Dimethoxy-4-iodoamphetamine."** From **page 7, paragraph 4**: "**In certain embodiments of methods and compositions of the present invention, the composition comprising the halogen compound and/or the composition comprising the additional active agent comprises one** or **more of** a reducing agent, a tonicity agent, a stabilizer, a surfactant, a lycoprotectant, a polyol, an antioxidant, or **a preservative**." From **page 28, paragraph 5:** "**A "preservative" is a natural or synthetic chemical that is added to products** such as foods, pharmaceutical compositions, paints, biological samples, wood, etc. to prevent decomposition by microbial growth or by undesirable chemical changes. Preservative additives can be used alone or in conjunction with other methods of preservation. **Preservatives may be antimicrobial preservatives, which inhibit the growth of bacteria and fungi, or antioxidants such as oxygen absorbers, which inhibit the oxidation of constituents.**" 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors."
22. The method of claim 21, wherein the composition further comprises at least one antiviral agent.	1.Int'l Pat. App. No. WO/2016/055790 "N-PYRIDINYL ACETAMINE DERIVATES AS WNT SIGNALING PATHWAY INHIBITORS" (Published April 14, 2016) From **[00141]**: "**One or more compounds of the invention may be combined with <u>one or more</u> pharmaceutical agents, for example anti-viral agents**, chemotherapeutics, anti-cancer agents, immune enhancers, immunosuppressants, anti-tumour vaccines, anti-viral vaccines, cytokine therapy, or tyrosine kinase inhibitors, **for the treatment of conditions** modulated by the inhibition of Porcn, **for example** cancer, sarcoma, melanoma, skin cancer, haematological tumors, lymphoma, carcinoma, leukemia, central nervous system disorders, **inflammation and immunological diseases**" From **[00144]:** "**The method of treatment or the compound for use in the treatment of inflammation and immunological diseases may involve, in addition to the compound of the invention, additional active agents...**

	TNF inhibitors for example etanercept; monoclonal antibodies (e.g. infliximab (Remicade), adalimumab (Humira), certolizumab pegol (Cimzia), golimumab (Simponi)); fusion proteins (e.g. etanercept (Enbrel)); and **5-HT2A agonists** (e.g. **2,5-dimethoxy-4-iodoamphetamine**, TCB-2, lysergic acid diethylamide (LSD), lysergic acid dimethylazetidide);" 7.PASSIE (2002) "The Pharmacology of Psilocybin" Addiction Biology. 7 (4): 357-364. From **page 362**: "**The effects of psilocybin are mediated mainly via activation of presynaptic 5HT2A receptors."** 8.Int'l Pat. App. No. WO/2016/161138 "ANTIVIRAL ACTIVITY FROM MEDICINAL MUSHROOMS AND THEIR ACTIVE CONSTITUENTS" (Published October 6, 2016) From **Claim 59**: "**A pharmaceutical composition produced by the method of claim 57 wherein the composition additionally comprises psilocybin**, psilocin, 4-acetoxy dimethyltryptamine, baeocystin, or nor-baeocystin." From **Claim 57**: "A pharmaceutical composition produced by the means of claim 56." From **Claim 56**: "**A means for preparing a composition comprising one or more of** ethyl 7-chloro- 2-oxo-4-phenyl-2H-chromen-3-carboxylate, **vanillic acid**, chrysin, quercetin hydrate, rutin hydrate, syringic acid, trans-cinnamic acid, trans-ferulic acid, salts thereof, esters thereof, or combinations thereof comprising isolating, purifying, synthesizing or manufacturing the molecules and combining in various ratios from 1 : 1 to 99: 1 by weight percentage, including all integers within the specified ratio range, or combining any FDA approved ingredients." From **[0019]**: "**One embodiment described herein is a method for treating a pathogenic virus infection comprising: administering a therapeutically effective amount of a composition to a patient** (a patient may be human or animal) **suffering from the pathogenic virus infection**, wherein the composition comprises one or more of ethyl 7-chloro-2-oxo-4-phenyl-2H-chromen-3-carboxylate, **vanillic acid**"
23. The composition of claim 21, wherein the composition further comprises at least one antipathogenic agent.	1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015) From **[0121]:** "In some embodiments, **said halogen compound is an organoiodide comprising one or more compounds from the non-limiting list of** .sup.25I—NBF, .sup.25I—NBMD, .sup.25I—NBOH, .sup.25I—NBOMe, 2C—I, 5, 5-I—R91150, Acetrizoic acid, Adipiodone, Adosterol, Altropane, AM-1241, AM-2233, AM-630, AM-679 (cannabinoid), AM-694, AM251, Amiodarone, Benziodarone, Bromoiodomethane, Budiodarone, Butyl iodide, Carbon tetraiodide, Chiniofon, Chloroiodomethane, Clioquinol, Diatrizoic acid, Diiodohydroxypropane,

	Diiodohydroxyquinoline, Diiodomethane, **2,5-Dimethoxy-4-iodoamphetamine**, Domiodol, ..." From **[0086]: "**A "preservative" is a natural or synthetic chemical that is added to products such as foods, pharmaceutical compositions, paints, biological samples, wood, etc. to prevent decomposition by microbial growth or by undesirable chemical changes. Preservative additives can be used alone or in conjunction with other methods of preservation. **Preservatives may be antimicrobial preservatives, which inhibit the growth of bacteria and fungi**, or antioxidants such as oxygen absorbers, which inhibit the oxidation of constituents. Examples of antimicrobial preservatives include **benzalkonium chloride, benzoic acid, chlorohexidine, glycerin, phenol, potassium sorbate, thimerosal, sulfites (sulfur dioxide, sodium bisulfite, potassium hydrogen sulfite, etc.) and disodium EDTA**. Other preservatives include those commonly used in parenteral protein compositions such as benzyl alcohol, phenol, m-cresol, chlorobutanol or methylparaben." 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors." 7.PASSIE (2002) "The Pharmacology of Psilocybin" Addiction Biology. 7 (4): 357-364. From **page 362**: "**The effects of psilocybin are mediated mainly via activation of presynaptic 5HT2A receptors."** 8.Int'l Pat. App. No. WO/2016/161138 "ANTIVIRAL ACTIVITY FROM MEDICINAL MUSHROOMS AND THEIR ACTIVE CONSTITUENTS" (Published October 6, 2016) From **Claim 59**: "**A pharmaceutical composition produced by the method of claim 57 wherein the composition additionally comprises psilocybin**, psilocin, 4-acetoxy dimethyltryptamine, baeocystin, or nor-baeocystin." From **Claim 57**: "A pharmaceutical composition produced by the means of claim 56." From **Claim 56**: "**A means for preparing a composition comprising one or more of** ethyl 7-chloro- 2-oxo-4-phenyl-2H-chromen-3-carboxylate, **vanillic acid**, chrysin, quercetin hydrate, rutin hydrate, syringic acid, trans-cinnamic acid, trans-ferulic acid, salts thereof, esters thereof, or combinations thereof comprising isolating, purifying, synthesizing or manufacturing the molecules and combining in various ratios from 1 : 1 to 99: 1 by weight percentage, including all integers within the specified ratio range, or combining any FDA approved ingredients."

	From **[0019]**: "**One embodiment described herein is a method for treating a pathogenic virus infection comprising: administering a therapeutically effective amount of a composition to a patient** (a patient may be human or animal) **suffering from the pathogenic virus infection**, wherein the composition comprises one or more of ethyl 7-chloro-2-oxo-4-phenyl-2H-chromen-3-carboxylate, **vanillic acid**"
24. The composition of claim 21, wherein the composition comprises a low-dose of the serotonin receptor agonist.	1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015) From **[0121]:** "In some embodiments, **said halogen compound is an organoiodide comprising one or more compounds from the non-limiting list of** .sup.25I—NBF, .sup.25I—NBMD, .sup.25I—NBOH, .sup.25I—NBOMe, 2C—I, 5, 5-I—R91150, Acetrizoic acid, Adipiodone, Adosterol, Altropane, AM-1241, AM-2233, AM-630, AM-679 (cannabinoid), AM-694, AM251, Amiodarone, Benziodarone, Bromoiodomethane, Budiodarone, Butyl iodide, Carbon tetraiodide, Chiniofon, Chloroiodomethane, Clioquinol, Diatrizoic acid, Diiodohydroxypropane, Diiodohydroxyquinoline, Diiodomethane, **2,5-Dimethoxy-4-iodoamphetamine**, Domiodol, ..." From **[0021]**: "In related embodiments, the present invention includes a unit dosage form of a composition of the invention, wherein said unit dosage form is formulated for oral administration. In particular embodiments, the unit dosage form is a pill, tablet, caplet or capsule. In certain embodiments, the unit dosage form comprises less than or equal to 150 mg, less than or equal to 125 mg, less than or equal to 100 mg, less than or equal to 75 mg, less than or equal to 50 mg, less than or equal to 25 mg, or less than or equal to 10 mg of the halogen compound. In certain embodiments, the unit dosage form comprises between about 1 mg and about 150 mg (including any interval in this range), between about 1 mg and about 125 mg, between about 1 mg and about 100 mg, between about 1 mg and about 75 mg, between about 1 mg and about 50 mg, between about 1 mg and about 25 mg or between **about 1 mg and about 10 mg of the halogen compound**."
25. The composition of claim 21, wherein the serotonin receptor agonist comprises a compound of formula (I), formula (II), or formula (III).	***From the application of interest 17/984,011, Claim 11:*** formula (II)  12.SHULGIN (1990) "PIKHAL - 67" Publisher: Transform Press ISBN: 978-0963009609 From **Chapter 67**:



1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015)

From **[0072]**: "**A "composition" can comprise an active agent, e.g., a halogen compound and/or a chalcogenide, and a carrier, inert or active, e.g., a pharmaceutically acceptable carrier**, diluent or excipient.

From **[0073**] "**Pharmaceutically acceptable carrier, diluent or excipient" includes without limitation any** adjuvant, carrier, excipient, glidant, sweetening agent, diluent, **preservative**, dye/colorant, flavor enhancer, surfactant, wetting agent, dispersing agent, suspending agent, stabilizer, isotonic agent, solvent or emulsifier which has been approved by the United States Food and Drug Administration as being acceptable for use in humans or domestic animals."

From **[0121]:** "In some embodiments, **said halogen compound is an organoiodide comprising one or more compounds from the non-limiting list of** .sup.25I—NBF, .sup.25I—NBMD, .sup.25I—NBOH, .sup.25I—NBOMe, 2C—I, 5, 5-I—R91150, Acetrizoic acid, Adipiodone, Adosterol, Altropane, AM-1241, AM-2233, AM-630, AM-679 (cannabinoid), AM-694, AM251, Amiodarone, Benziodarone, Bromoiodomethane, Budiodarone, Butyl iodide, Carbon tetraiodide, Chiniofon, Chloroiodomethane, Clioquinol, Diatrizoic acid, Diiodohydroxypropane, Diiodohydroxyquinoline, Diiodomethane, **2,5-Dimethoxy-4-iodoamphetamine**, Domiodol, ..."

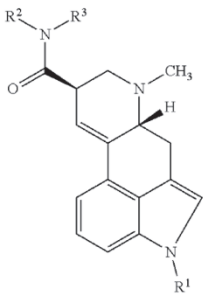
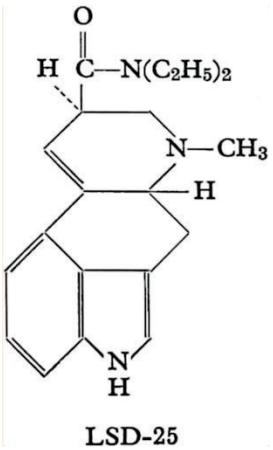
From **[0086]: "A "preservative" is a natural or synthetic chemical that is added to products** such as foods, pharmaceutical compositions, paints, biological samples, wood, etc. to prevent decomposition by microbial growth or by undesirable chemical changes. Preservative additives can be used alone or in conjunction with other methods of preservation. **Preservatives may be antimicrobial preservatives, which inhibit the growth of bacteria and fungi, or antioxidants such as oxygen absorbers, which inhibit the oxidation of constituents.** Examples of Antimicrobial preservatives include benzalkonium chloride, benzoic acid, chlorohexidine, glycerin, phenol, potassium sorbate, thimerosal, sulfites (sulfur dioxide, sodium bisulfite, potassium hydrogen sulfite, etc.) and disodium EDTA. Other preservatives include those commonly used in parenteral protein compositions such as benzyl alcohol, phenol, m-cresol, chlorobutanol or methylparaben."

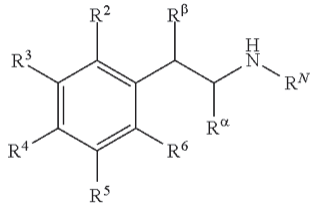
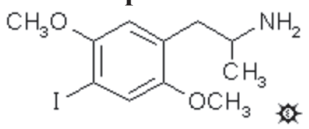
2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407.

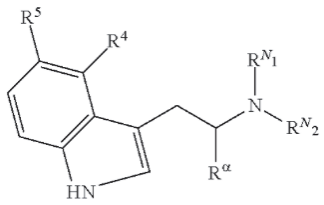
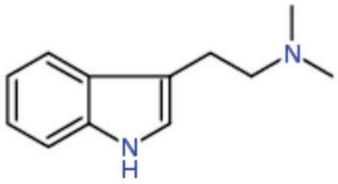
	From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors."
26. The composition of claim 21, wherein the serotonin receptor agonist comprises 2,5-Dimethoxy-4-iodoamphetamine (DOI).	1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015) From **[0072]**: "**A "composition" can comprise an active agent, e.g., a halogen compound and/or a chalcogenide, and a carrier, inert or active, e.g., a pharmaceutically acceptable carrier**, diluent or excipient." From **[0073]** "**Pharmaceutically acceptable carrier, diluent or excipient" includes without limitation any** adjuvant, carrier, excipient, glidant, sweetening agent, diluent, **preservative**, dye/colorant, flavor enhancer, surfactant, wetting agent, dispersing agent, suspending agent, stabilizer, isotonic agent, solvent or emulsifier which has been approved by the United States Food and Drug Administration as being acceptable for use in humans or domestic animals." From **[0121]:** "In some embodiments, **said halogen compound is an organoiodide comprising one or more compounds from the non-limiting list of** .sup.25I—NBF, .sup.25I—NBMD, .sup.25I—NBOH, .sup.25I—NBOMe, 2C—I, 5, 5-I—R91150, Acetrizoic acid, Adipiodone, Adosterol, Altropane, AM-1241, AM-2233, AM-630, AM-679 (cannabinoid), AM-694, AM251, Amiodarone, Benziodarone, Bromoiodomethane, Budiodarone, Butyl iodide, Carbon tetraiodide, Chiniofon, Chloroiodomethane, Clioquinol, Diatrizoic acid, Diiodohydroxypropane, Diiodohydroxyquinoline, Diiodomethane, **2,5-Dimethoxy-4-iodoamphetamine**, Domiodol, ..." From **[0086]: "A "preservative" is a natural or synthetic chemical that is added to products** such as foods, pharmaceutical compositions, paints, biological samples, wood, etc. to prevent decomposition by microbial growth or by undesirable chemical changes. Preservative additives can be used alone or in conjunction with other methods of preservation. **Preservatives may be antimicrobial preservatives, which inhibit the growth of bacteria and fungi, or antioxidants such as oxygen absorbers, which inhibit the oxidation of constituents."** 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors."
27. The composition of claim 21, wherein the composition comprises an ocular drop, dermal	1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015)

patch, ocular gel, topical gel, systemic delivery system, enteric capsule, nebulized inhalant, inhalant, intrathecal composition, or an injectable.	From **[0072]**: "**A "composition" can comprise an active agent, e.g., a halogen compound and/or a chalcogenide, and a carrier, inert or active, e.g., a pharmaceutically acceptable carrier**, diluent or excipient. From **[0073**] "**Pharmaceutically acceptable carrier, diluent or excipient" includes without limitation any** adjuvant, carrier, excipient, glidant, sweetening agent, diluent, **preservative**, dye/colorant, flavor enhancer, surfactant, wetting agent, dispersing agent, suspending agent, stabilizer, isotonic agent, solvent or emulsifier which has been approved by the United States Food and Drug Administration as being acceptable for use in humans or domestic animals." From **[0121]:** "In some embodiments, **said halogen compound is an organoiodide comprising one or more compounds from the non-limiting list of** .sup.25I—NBF, .sup.25I—NBMD, .sup.25I—NBOH, .sup.25I—NBOMe, 2C—I, 5, 5-I—R91150, Acetrizoic acid, Adipiodone, Adosterol, Altropane, AM-1241, AM-2233, AM-630, AM-679 (cannabinoid), AM-694, AM251, Amiodarone, Benziodarone, Bromoiodomethane, Budiodarone, Butyl iodide, Carbon tetraiodide, Chiniofon, Chloroiodomethane, Clioquinol, Diatrizoic acid, Diiodohydroxypropane, Diiodohydroxyquinoline, Diiodomethane, **2,5-Dimethoxy-4-iodoamphetamine**, Domiodol, ..." From **[0086]: "A "preservative" is a natural or synthetic chemical that is added to products** such as foods, pharmaceutical compositions, paints, biological samples, wood, etc. to prevent decomposition by microbial growth or by undesirable chemical changes. Preservative additives can be used alone or in conjunction with other methods of preservation. **Preservatives may be antimicrobial preservatives, which inhibit the growth of bacteria and fungi, or antioxidants such as oxygen absorbers, which inhibit the oxidation of constituents."** From **[0335]**: "According to various embodiments of the methods of the present invention, **a biological material is provided with a composition of the invention, e.g., intravenously**, intradermally, intraarterially, intraperitoneally, intralesionally, intracranially, intraarticularly, intraprostaticaly, intrapleurally, intratracheally, intranasally, intravitreally, intravaginally, intrarectally, topically, intratumorally, intramuscularly, intraperitoneally, intraocularly, subcutaneously, subconjunctival, intravesicularly, mucosally, intrapericardially, intraumbilically, **intraocularally,** orally, topically, locally, by injection, by infusion, by continuous infusion, by absorption, by adsorption, by immersion, by localized perfusion, via a catheter, or via a lavage. In particular embodiments, it is provided parenterally, e.g., intravenously, or by **inhalation**."
28. The composition of claim 21, wherein the serotonin receptor comprises the 5-HT2A serotonin receptor.	1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015) From **[0072]**: "**A "composition" can comprise an active agent, e.g., a halogen compound and/or a chalcogenide, and a carrier, inert or active, e.g., a pharmaceutically acceptable carrier**, diluent or excipient.

	From **[0073**] "**Pharmaceutically acceptable carrier, diluent or excipient" includes without limitation any** adjuvant, carrier, excipient, glidant, sweetening agent, diluent, **preservative**, dye/colorant, flavor enhancer, surfactant, wetting agent, dispersing agent, suspending agent, stabilizer, isotonic agent, solvent or emulsifier which has been approved by the United States Food and Drug Administration as being acceptable for use in humans or domestic animals." From **[0121]:** In some embodiments, **said halogen compound is an organoiodide comprising one or more compounds from the non-limiting list of** .sup.25I—NBF, .sup.25I—NBMD, .sup.25I—NBOH, .sup.25I—NBOMe, 2C—I, 5, 5-I—R91150, Acetrizoic acid, Adipiodone, Adosterol, Altropane, AM-1241, AM-2233, AM-630, AM-679 (cannabinoid), AM-694, AM251, Amiodarone, Benziodarone, Bromoiodomethane, Budiodarone, Butyl iodide, Carbon tetraiodide, Chiniofon, Chloroiodomethane, Clioquinol, Diatrizoic acid, Diiodohydroxypropane, Diiodohydroxyquinoline, Diiodomethane, **2,5-Dimethoxy-4-iodoamphetamine**, Domiodol, ... From **[0086]: A "preservative" is a natural or synthetic chemical that is added to products** such as foods, pharmaceutical compositions, paints, biological samples, wood, etc. to prevent decomposition by microbial growth or by undesirable chemical changes. Preservative additives can be used alone or in conjunction with other methods of preservation. **Preservatives may be antimicrobial preservatives, which inhibit the growth of bacteria and fungi, or antioxidants such as oxygen absorbers, which inhibit the oxidation of constituents.** Examples of Antimicrobial preservatives include benzalkonium chloride, benzoic acid, chlorohexidine, glycerin, phenol, potassium sorbate, thimerosal, sulfites (sulfur dioxide, sodium bisulfite, potassium hydrogen sulfite, etc.) and disodium EDTA. Other preservatives include those commonly used in parenteral protein compositions such as benzyl alcohol, phenol, m-cresol, chlorobutanol or methylparaben. 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors."
29. The composition of claim 21, wherein the serotonin receptor agonist comprises a chemical having the following formula: wherein R1, R2, and R3 are selected from the group comprising CH2CH3,	*From the application of interest 17/984,011,* ***Claim 29:***

CH(CH3)CH2CH3, CH(CH3)CH2CH2CH3, C2H5, CH2CH2CH3, CH(CH3)2 and H.	 16.PASSIE (2008) "The Pharmacology of Lysergic Acid Diethylamide: A Review" CNS Neuroscience & Therapeutics.  LSD-25 From **Figure 1**: **Lysergic Acid Diethylamide** 17.Int'l Pat. App. No. WO/2015/195989 "ENTERIC SOFT CAPSULE COMPOSITIONS" (Published December 23, 2015) From **[0077]**: "**Suitable active ingredients can include, for example, active pharmaceutical ingredients (e.g., therapeutic agents, prophylactic agents, and diagnostic agents)**, nutraceuticals, vitamins, minerals, **and combinations thereof.**" From **[0123]**: "**In another embodiment, the active pharmaceutical ingredient may be a substance with abuse potential that presents a safety risk. Such active drug substance may include**:... **lysergic acid diethylamide** From **[0101]**: "**Examples of active pharmaceutical ingredients that can be included comprise agents classified as, for example**,... **antiviral**"
30. The composition of claim 21, wherein the serotonin receptor agonist comprises a chemical having the following formula:	*From the application of interest 17/984,011,* ***Claim 30:***

wherein Rα, Rβ, R2, R3, R4, R5, R6 and RN are selected from the group comprising OCH3, CH3, SCH3, Br, I, CH2CH(CH3)2, and H.	 12.SHULGIN (1990) "PIKHAL - 67" Publisher: Transform Press ISBN: 978-0963009609 From **Chapter 67**:  1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015) From **[0121]:** "In some embodiments, **said halogen compound is an organoiodide comprising one or more compounds from the non-limiting list of** .sup.25I—NBF, .sup.25I—NBMD, .sup.25I—NBOH, .sup.25I—NBOMe, 2C—I, 5, 5-I—R91150, Acetrizoic acid, Adipiodone, Adosterol, Altropane, AM-1241, AM-2233, AM-630, AM-679 (cannabinoid), AM-694, AM251, Amiodarone, Benziodarone, Bromoiodomethane, Budiodarone, Butyl iodide, Carbon tetraiodide, Chiniofon, Chloroiodomethane, Clioquinol, Diatrizoic acid, Diiodohydroxypropane, Diiodohydroxyquinoline, Diiodomethane, **2,5-Dimethoxy-4-iodoamphetamine**, Domiodol, ..." From **[0086]: "A "preservative" is a natural or synthetic chemical that is added to products** such as foods, pharmaceutical compositions, paints, biological samples, wood, etc. to prevent decomposition by microbial growth or by undesirable chemical changes. Preservative additives can be used alone or in conjunction with other methods of preservation. **Preservatives may be antimicrobial preservatives, which inhibit the growth of bacteria and fungi, or antioxidants such as oxygen absorbers, which inhibit the oxidation of constituents.** Examples of Antimicrobial preservatives include benzalkonium chloride, benzoic acid, chlorohexidine, glycerin, phenol, potassium sorbate, thimerosal, sulfites (sulfur dioxide, sodium bisulfite, potassium hydrogen sulfite, etc.) and disodium EDTA. Other preservatives include those commonly used in parenteral protein compositions such as benzyl alcohol, phenol, m-cresol, chlorobutanol or methylparaben." 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407.

	From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors."
31. The composition of claim 21, wherein the serotonin receptor agonist comprises a chemical having the following formula: wherein Rα, RN 1, RN 2, R4 and R5 are selected from the group comprising C, CH3, OH, F, OCH3 and H.	*From the application of interest 17/984,011,* ***Claim 30:***  18.#6 DMT (2011) "N,N-Dimethyltryptamine" Isomer Design. Retrieved from March 7, 2016. URL: https://web.archive.org/web/20160307021701/http://isomerdesign.com/PiHKAL/read.php?id=6&domain=tk From **Figure 1**:  **N,N-Dimethyltryptamine** 19.Int'l Pat. App. No. WO/2015/090583 "SYSTEM FOR THE TRANSDERMAL DELIVERY OF AN ACTIVE INGREDIENT" (Published June 25, 2015) **From [0060]**: "**In a preferred embodiment, the active ingredient is selected from the group of cationic indole compounds, in particular from** the group of cationic indole compounds, **N-dimethyltryptamine** and psilocin, the group also encompassing the pharmaceutically suitable salts of these cationically active indole compounds." From **[0072]**: "**The liquid-soaked carrier material may optionally contain further additives**, wherein the additives may be **selected from** the group of solubilizers, skin penetration enhancers, preservatives and **antimicrobial agents**." 20.SMITH (1998) "Agonist Properties of *N,N*-Dimethyltryptamine at Serotonin 5-HT2A and 5-HT2C Receptors" Pharmacology Biochemistry and Behavior. 61 (3): 323-330. From **abstract**: "**Thus, we conclude that DMT behaves as an agonist at both 5-HT2A and 5-HT2C receptors.**"

32. The method of claim 3, wherein the immunologically-restricted tissue comprises a tissue of the lung, skin, brain, eye or a combination thereof.	*From the application of interest 17/984,011 paragraph [0012] "In embodiments, the tissue comprises an immunologically-restricted tissue. Non-limiting examples of immunologically-restricted tissues comprise tissues of the **lung**, skin, brain, eyes, gut or combination thereof."* 2.MACKOWIAK (2002) "DOI, an **agonist of 5-HT2A/2C serotonin receptor**, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors." 3.NAU (2015) "Serotonin 5-HT2 receptor activation prevents allergic asthma in a mouse model" American Journal of Physiology-Lung Cellular and Molecular Physiology. Vol 308 (2):191-198. From **page 16, paragraph 3**: "**We have identified an important and new functional role of 5-HT2A receptors in the lung**. **(R)-DOI activation of serotonin 5-HT2 receptors potentially prevents the development of a clinically relevant mouse model of allergic asthma** at drug levels far below those necessary to invoke adverse cardiovascular or behavioral effects."
33. The method of claims 1, 17, and 20, wherein the pathogenesis comprises hypersensitivity, a hypersensitivity-associated disease process, vascularization, vascular leakage, vascular permeability, angiogenesis, lymphangiogenesis, neovascularization, vasodialation, vasoconstriction, vascular occlusions, edema, corneal epithelial defects, increased intraocular pressure, increased oxygen saturation, ischemia, haemorrhage, necrotizing inflammation, epithelial hyperproliferation, epithelial thickening, fibrosis, or a combination thereof.	1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015) From **page 1, paragraph 1**: This invention relates to **compositions comprising halogen and/or chalcogenide compounds**, including those comprising a halogen and/or a chalcogen compound in a reduced form, e.g. halides and/or chalcogenides, and methods **for treating or preventing injuries and diseases, including diseases and injuries associated with hypoxia, ischemia or reperfusion injury and/or the formation of reactive oxygen species**, e.g., heart attack, chronic heart failure, diseases and injuries associated with excessive metabolic rate, e.g., epilepsy, and diseases and injuries associated with an undesired immune or inflammatory response, e.g., graft versus host disease (GVHD) or organ transplant. The present invention also relates to methods for reducing or inhibiting an immune response, using a composition comprising a halide and/or a chalcogenide compound. From **page 36, paragraph 3**: In some embodiments, said halogen compound is an organoiodide comprising of one or more compounds...**2,5-Dimethoxy-4-iodoamphetamine.** 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors."

34. The method of claim 7, wherein the infection comprises a viral infection.	*From the application of interest 17/984,011 paragraph [0012] "In embodiments, the tissue comprises an immunologically-restricted tissue. Non-limiting examples of immunologically-restricted tissues comprise tissues of the lung, skin, brain, eyes, gut or combination thereof."* 2.MACKOWIAK (2002) "**DOI, an agonist of 5-HT2A/2C serotonin receptor**, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors." 5.Int'l Pat. App. Pub. No. WO/2006/078610 "DIARYL AND ARYLHETEROARYL UREA DERIVATIVES AS MODULATORS OF THE 5-HT2A SEROTONIN RECEPTOR USEFUL FOR THE PROPHYLAXIS OR TREATMENT OF PROGRESSIVE MULTIFOCAL LEUKOENCEPHALOPATHY" (Published July 27, 2006) From **field of the invention**: "**Formula J and pharmaceutical compositions thereof modulate the activity of the 5-HT_{2A} serotonin receptor. Compounds and pharmaceutical compositions thereof are directed to methods useful for the prophylaxis or treatment of progressive multifocal leukoencephalopathy."**
35. The method of claim 33, wherein the viral infection comprises herpetic keratitis, stromal keratitis, herpetic uveitis, herpetic iritis, viral keratoconjunctivitis, viral retinitis, adenoviral conjunctivitis.	21.Int'l Pat. App. No. WO/2014/096873 "BIOMARKERS IN INFLAMMATORY BOWEL DISEASE" (Published June 26, 2014) From **[0064]**: "Weighting Clinical or laboratory variable factor Number of liquid or soft stools each day for ×2 seven days Abdominal pain (graded from 0-3 on severity) ×5 each day for seven days General well being, subjectively assessed from ×7 0 (well) to 4 (terrible) each day for seven days Presence of complications* ×20 Taking Lomotil or opiates for diarrhea ×30 Presence of an abdominal mass (0 as none, ×10 2 as questionable, 5 as definite) Hematocrit of <0.47 in mrn snf <0.42 in women ×6 Percentage deviation from standard weight ×1 *One point each is added for each set of complications: **the presence of** joint pains (arthralgia) or frank arthritis; **inflammation of the iris or uveitis**; presence of erythema nodosum, pyoderma gangrenosum, or aphthous ulcers; anal fissures, fistulae or abscesses; other fistulae; fever during the previous week." From **[0052]**: "**The invention relates to** identifying the status of IR in **patients who have been treated with anti TNFα therapy**. By anti TNFα therapy it is meant any therapy that inhibits or antagonises TNFα. **This could include inhibiting the production of TNFα or its receptor**, e.g. by inhibiting its transcription or translation, or inhibiting its activity, directly or indirectly. Various methods for achieving this are known in the art. Inhibitors and antagonists or TNFα thus include antisense molecules, RNAi molecules, ribozymes, antibodies (e.g. a monoclonal antibody) or other

	binding proteins and small molecules. Any of these may be directed against TNFα or its receptor." From **[0053]**: "...**Several 5-HT2A agonist hallucinogens including (R)-DOI (2,5-Dimethoxy-4-iodoamphetamine**), TCB-2 (1-[(7R)-3-bromo-2,5-dimethoxybicyclo[4.2.0]octa-1,3,5-trien-7-yl]methanamine), LSD (Lysergic acid diethylamide) and LA-SS-Az (Lysergic acid 2,4-dimethylazetidide) **have unexpectedly also been found to act as potent inhibitors of the TNFα receptor."**
36. The method of claim 5 wherein the ocular disease comprises AMD, choroidal vascularization, diabetic retinopathies, viral retinopathies, glaucoma, corneal allograft transplant rejection, ocular hypertension, corneal neovascularization, keratoconjunctivitis, viral conjunctivitis, allergic conjunctivitis, uveitis, iritis, or keratitis.	1.Int'l Pat. App. Pub. No. WO/2015/120458 "HALOGEN TREATMENT OF HEART ATTACK AND ISCHEMIC INJURY" (Published August 13, 2015) From **page 1, paragraph 1**: "This invention relates to **compositions comprising halogen and/or chalcogenide compounds**, including those comprising a halogen and/or a chalcogen compound in a reduced form, e.g. halides and/or chalcogenides, and methods **for treating or preventing injuries and diseases, including** diseases and injuries associated with hypoxia, ischemia or reperfusion injury and/or the formation of reactive oxygen species, e.g., heart attack, chronic heart failure, diseases and injuries associated with excessive metabolic rate, e.g., epilepsy, and diseases and injuries associated with an **undesired immune or inflammatory response, e.g.**, graft versus host disease (GVHD) or **organ transplant**. The present invention also relates to methods for reducing or inhibiting an immune response, using a composition comprising a halide and/or a chalcogenide compound." From **page 36, paragraph 3**: "In some embodiments, said halogen compound is an organoiodide comprising of one or more compounds...**2,5-Dimethoxy-4-iodoamphetamine."** 2.MACKOWIAK (2002) "DOI, an agonist of 5-HT2A/2C serotonin receptor, alters the expression of cyclooxygenase-2 in the rat parietal cortex" Journal of Physiological Pharmacology. Vol 53(3):395-407. From **abstract**: "The hallucinogenic effect of **DOI, a serotonin 5-HT2A/2C receptor agonist**, is known to be associated with the activation of cortical 5-HT2 receptors."
37. The method of claim 33, wherein the viral infection is associated with ulceration, keratoconjunctivitis, blepharitis, neovascularization, edema, endophthalmitis, haemorrhage, photophobia, glaucoma,	21.Int'l Pat. App. No. WO/2014/096873 "BIOMARKERS IN INFLAMMATORY BOWEL DISEASE" (Published June 26, 2014) From **[0064]**: "Weighting Clinical or laboratory variable factor Number of liquid or soft stools each day for ×2 seven days Abdominal pain (graded from 0-3 on severity) ×5 each day for seven days General well being, subjectively assessed from ×7 0 (well) to 4 (terrible) each day for seven days Presence of complications* ×20 Taking Lomotil or opiates for diarrhea ×30 Presence of an abdominal mass (0 as none, ×10 2 as questionable, 5 as definite) Hematocrit of <0.47 in mrn snf <0.42 in women ×6 Percentage deviation from standard weight ×1 *One point each is added for each set of complications: **the presence of** joint pains (arthralgia) or frank arthritis;

necrotizing inflammation, loss of vision, reduced vision, uveitis, iritis, ocular redness, scleral injection, retinitis, fibrosis, epithelial thickening, blepharitis, endophthalmitis, photophobia, glaucoma, loss of vision, or a combination thereof.	**inflammation of the iris or uveitis**; presence of erythema nodosum, pyoderma gangrenosum, or aphthous ulcers; anal fissures, fistulae or abscesses; other fistulae; fever during the previous week." From **[0052]**: "**The invention relates to** identifying the status of IR in **patients who have been treated with anti TNFα therapy**. By anti TNFα therapy it is meant any therapy that inhibits or antagonises TNFα. **This could include inhibiting the production of TNFα or its receptor**, e.g. by inhibiting its transcription or translation, or inhibiting its activity, directly or indirectly. Various methods for achieving this are known in the art. Inhibitors and antagonists or TNFα thus include antisense molecules, RNAi molecules, ribozymes, antibodies (e.g. a monoclonal antibody) or other binding proteins and small molecules. Any of these may be directed against TNFα or its receptor." From **[0053]**: "...**Several 5-HT2A agonist hallucinogens including (R)-DOI (2,5-Dimethoxy-4-iodoamphetamine**), TCB-2 (1-[(7R)-3-bromo-2,5-dimethoxybicyclo[4.2.0]octa-1,3,5-trien-7-yl]methanamine), LSD (Lysergic acid diethylamide) and LA-SS-Az (Lysergic acid 2,4-dimethylazetidide) **have unexpectedly also been found to act as potent inhibitors of the TNFα receptor."**
38. A method of delaying or preventing viral reactivation in a tissue of a subject, the method comprising administering to the subject afflicted with a persistent viral infection a therapeutically effective amount of a composition comprising a serotonin receptor agonist.	8.Int'l Pat. App. No. WO/2016/161138 "ANTIVIRAL ACTIVITY FROM MEDICINAL MUSHROOMS AND THEIR ACTIVE CONSTITUENTS" (Published October 6, 2016) From **Claim 59**: "**A pharmaceutical composition produced by the method of claim 57 wherein the composition additionally comprises psilocybin**, psilocin, 4-acetoxy dimethyltryptamine, baeocystin, or nor-baeocystin." From **Claim 57**: "A pharmaceutical composition produced by the means of claim 56." From **Claim 56**: "**A means for preparing a composition comprising one or more of** ethyl 7-chloro- 2-oxo-4-phenyl-2H-chromen-3-carboxylate, **vanillic acid**, chrysin, quercetin hydrate, rutin hydrate, syringic acid, trans-cinnamic acid, trans-ferulic acid, salts thereof, esters thereof, **or combinations thereof** comprising isolating, purifying, synthesizing or manufacturing the molecules and combining in various ratios from 1 : 1 to 99: 1 by weight percentage, including all integers within the specified ratio range, or combining any FDA approved ingredients." From **[0019]**: "**One embodiment described herein is a method for treating a pathogenic virus infection comprising: administering a therapeutically effective amount of a composition to a patient** (a patient may be human or animal) **suffering from the pathogenic virus infection**, **wherein the composition comprises one or more of** ethyl 7-chloro-2-oxo-4-phenyl-2H-chromen-3-carboxylate, **vanillic acid**..." From **Claim 1**: **A method for treating a pathogenic virus infection comprising: administering a therapeutically effective amount of a composition to a patient suffering from the pathogenic virus infection**,

	wherein the composition comprises one or more of ethyl 7-chloro-2-oxo-4-phenyl-2H-chromen-3-carboxylate, vanillic acid, chrysin, quercetin hydrate, rutin hydrate, syringic acid, trans-cinnamic acid, trans-ferulic acid, salts thereof, esters thereof, or combinations thereof, wherein the composition has an antiviral effect against the pathogenic virus and wherein the pathogenic virus comprises one or more of herpes Varicella zoster virus, Epstein-Barr virus, herpes simplex I and II viruses, **human Papillomavirus (HPV)**, influenza viruses, hepatitis viruses, poliovirus, or norovirus. BROWN (2013) "Human Papillomavirus in Older Women: New Infection or Reactivation?" Journal of Infectious Diseases. 207 (2): 211-212. From **Page 112**: "...**HPV** can exist in a low-level persistent state and **can reactivate** later in life and cause disease."

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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/984,011	**02/19/2024 10:36:17 AM Z ET**	

Title of Invention

Application Information

APPLICATION TYPE		PATENT #	
CONFIRMATION #		FILED BY	Jeremy Rolquin
PATENT CENTER #	64363257	FILING DATE	11/09/2022
CUSTOMER #	–	FIRST NAMED INVENTOR	
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	-

Documents

TOTAL DOCUMENTS: 23

DOCUMENT		PAGES	DESCRIPTION	SIZE (KB)
Third-party-notification-request.pdf		1	Request for Notification of Non-compliant Third-Party Submission	13 KB
Concise-description-generated.pdf		2	Concise Description of Relevance	36 KB
third-party-preissuance-submission.pdf		3	Third-Party Submission Under 37 CFR 1.290	75 KB
LSU 3PS FINAL.pdf		32	-	517 KB
LSU 3PS FINAL-3P.RELEVANCE.pdf	(1-32)	32	Concise Description of Relevance	520 KB
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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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ELECTRONIC PAYMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/984,011	**02/19/2024 10:36:17 AM Z ET**	

Title of Invention

Application Information

APPLICATION TYPE		PATENT #	
CONFIRMATION #		FILED BY	Jeremy Rolquin
PATENT CENTER #	64363257	AUTHORIZED BY	-
CUSTOMER #	–	FILING DATE	11/09/2022
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	

Payment Information

PAYMENT METHOD	PAYMENT TRANSACTION ID	PAYMENT AUTHORIZED BY
CARD / 6701	**E20242IA37359208**	**Jeremy Rolquin**

FEE CODE	DESCRIPTION	ITEM PRICE($)	QUANTITY	ITEM TOTAL($)
2818	DOCUMENT FEE FOR THIRD-PARTY SUBMISSIONS (SEE 37 CFR 1.290(F))	72.00	1	72.00
			TOTAL AMOUNT:	**$72.00**

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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/984,011	**02/19/2024 02:31:37 PM Z ET**	

Title of Invention

Application Information

APPLICATION TYPE		PATENT #	
CONFIRMATION #		FILED BY	Jeremy Rolquin
PATENT CENTER #	64365580	FILING DATE	11/09/2022
CUSTOMER #	–	FIRST NAMED INVENTOR	
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	-

Documents

TOTAL DOCUMENTS: 23

DOCUMENT		PAGES	DESCRIPTION	SIZE (KB)
third-party-preissuance-submission.pdf		3	Third-Party Submission Under 37 CFR 1.290	74 KB
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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d)

and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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ELECTRONIC PAYMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/984,011	**02/19/2024 02:31:37 PM Z ET**	

Title of Invention

Application Information

APPLICATION TYPE		PATENT #	
CONFIRMATION #		FILED BY	Jeremy Rolquin
PATENT CENTER #	64365580	AUTHORIZED BY	-
CUSTOMER #	–	FILING DATE	11/09/2022
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	

Payment Information

PAYMENT METHOD	PAYMENT TRANSACTION ID	PAYMENT AUTHORIZED BY
CARD / 6701	**E20242IE32549105**	**Jeremy Rolquin**

FEE CODE	DESCRIPTION	ITEM PRICE($)	QUANTITY	ITEM TOTAL($)
2818	DOCUMENT FEE FOR THIRD-PARTY SUBMISSIONS (SEE 37 CFR 1.290(F))	72.00	1	72.00
			TOTAL AMOUNT:	**$72.00**

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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/984,011	**02/19/2024 02:38:04 PM Z ET**	

Title of Invention

Application Information

APPLICATION TYPE		PATENT #	
CONFIRMATION #		FILED BY	Jeremy Rolquin
PATENT CENTER #	64366266	FILING DATE	11/09/2022
CUSTOMER #	–	FIRST NAMED INVENTOR	
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	-

Documents

TOTAL DOCUMENTS: 7

DOCUMENT		PAGES	DESCRIPTION	SIZE (KB)
Concise-description-generated.pdf		2	Concise Description of Relevance	25 KB
Third-party-notification-request.pdf		1	Request for Notification of Non-compliant Third-Party Submission	13 KB
third-party-preissuance-submission.pdf		2	Third-Party Submission Under 37 CFR 1.290	45 KB
LSU 3PS FINAL.pdf		32	-	517 KB
LSU 3PS FINAL-3P.RELEVANCE.pdf	(1-32)	32	Concise Description of Relevance	520 KB
LSU 3PS FINAL-3P.RELEVANCE.pdf	(1-32)	32	Concise Description of Relevance	520 KB
21_WO2014096873.pdf		63	-	2546 KB

21_WO2014096873-FOR.pdf	(1-63)	63	Foreign Reference	2534 KB
22_BROWN.pdf		2	-	49 KB
22_BROWN-NPL.pdf	(1-2)	2	Non Patent Literature	46 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
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17/984,011	**02/19/2024 02:38:04 PM Z ET**	

Title of Invention

Application Information

APPLICATION TYPE		PATENT #	
CONFIRMATION #		FILED BY	Jeremy Rolquin
PATENT CENTER #	64366266	AUTHORIZED BY	-
CUSTOMER #	–	FILING DATE	11/09/2022
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	

Payment Information

PAYMENT METHOD	PAYMENT TRANSACTION ID	PAYMENT AUTHORIZED BY
CARD / 6701	**E20242IE39289406**	**Jeremy Rolquin**

FEE CODE	DESCRIPTION	ITEM PRICE($)	QUANTITY	ITEM TOTAL($)
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			TOTAL AMOUNT:	**$72.00**

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