IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: STAMETS; Paul E. Confirmation No.:

Serial No.: 17/738,925 Group No.:

Filing or 371(c) Date: May 6, 2022 Examiner:

Entitled: FUNGAL COMPOUND COMPOSITIONS AND METHODS FOR MODULATING

INFLAMMATION

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:

- Priority Document of Int'l Pat. App. Pub. No. WO/2021/101926 "TRYPTAMINE COMPOSITIONS FOR ENHANCING NEURITE OUTGROWTH" (Priority date 9 April 2020)
- 2. NUZZO (2021) "Post-Acute COVID-19 Neurological Syndrome: A New Medical Challenge" Journal of Clinical Medicine. Vol 10(9):1947.
- 3. SZABO (2014) "Psychedelic N,N-Dimethyltryptamine and 5-Methoxy-N,N-Dimethyltryptamine Modulate Innate and Adaptive Inflammatory Responses through the Sigma-1 Receptor of Human Monocyte-Derived Dendritic Cells" PLOS One. Vol 9(8):1-8.
- 4. SHEU (2013) "Immunomodulatory effects of polysaccharides isolated from *Hericium erinaceus* on dendritic cells" Process Biochemistry. Vol 48(9):1402-1408.
- 5. DILING (2017) "Extracts from *Hericium erinaceus* relieve inflammatory bowel disease by regulating immunity and gut microbiota" Oncotarget. Vol 8:85838-85857.
- 6. Int'l Pat. App. Pub. No. WO/2020/212948 "METHODS OF TREATING NEUROCOGNITIVE DISORDERS, CHRONIC PAIN AND REDUCING INFLAMMATION" (Published 22 October 2020)
- 7. ASKIM (2016) "Epidemiology and outcome of sepsis in adult patients with Streptococcus pneumoniae infection in a Norwegian county 1993–2011: an observational study" BMC Infectious Diseases. Vol. 6(223):1-9.

- 8. ATARASHI (2017) "Ectopic colonization of oral bacteria in the intestine drives TH1 cell induction and inflammation" Science. Vol.358(6361):359-365.
- 9. ICEERS (2020) "Ayahuasca: Basic Info" Retrieved from 6 August 2020. URL: https://web.archive.org/web/20200806102318/https://www.iceers.org/ayahuasca-basic-info/
- 10. GOULART DA SILVA (2021) "Anti-inflammatory activity of ayahuasca: therapeutical implications in neurological and psychiatric diseases" Behavioural Brain Research. Vol. 400:1-8.
- 11. CHEN (2021) "Cytokine Storm: The Primary Determinant for the Pathophysiological Evolution of COVID-19 Deterioration" Frontiers in Immunology. Vol.12:1-11.

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. 17/738,925	References		
Pending Claims	References		
1. A composition	1. Priority Document	of Int'l Pat. App. Pub. No. WO/202	21/101926
comprising:	"TRYPTAMINE COMPOSITIONS FOR ENHANCING NEURITE		
one or more	OUTGROWTH" (Pri	ority date 9 April 2020)	
tryptamines, salts			
thereof, or	From page 26		
combinations thereof;	Table 1. Exemplary neuro	otropic or nootropic compositions	
extracts or isolates from	Component Tryptamine neurotrophics,	Example	Dosage
Hericium erinaceus	tryptamine derivatives,	Psilocybin, baeocystin, norbaeocystin, psilocin norpsilocin, 4-hydroxytryptamine,	
mushroom species,	esters, or salts thereof, or extracts from fungi or	N,N-dimethyltryptamine, N-methyltryptamine,	
erinacines, hericenones,	plants; In addition to or	inter alia; In addition or alternatively, 3,4,5- trimethoxyphenethylamine (Mescaline), 2,4-	10 1- 10
or combinations	alternatively, phenethylamines,	dimethoxy-amphetamine (2,4-DMA), 3,4-	10 ng to 10 mg
thereof; and	amphetamines; derivatives thereof,	dimethoxy-amphetamine (3,4-DMA), 3,4- methylenedioxy-amphetamine (MDA), 3-	
one or more	extracts from fungi or	methoxy-4,5-methylendioxy-amphetamine (MMDA), inter alia	
monoamine oxidase	plants	Erinacines, hericenones, cannabidiol,	
inhibitors.	Optional secondary	cannabichromene, cannabigerol, Δ8-	
	neurotrophic fungal or plant extracts, or purified	tetrahydrocannabinol, Δ9- tetrahydrocannabinol, cannabinol,	10 ng to 500 mg
	compounds thereof	tetrahydrocannabivarin, cannabidiol-2',6'-	
		dimethyl ether, inter alia Antrodia, Beauveria, Copelandia, Cordycep.,	
		Fomitopsis, Ganoderma, Grifola, Hericium, Hypsizygus, Inonotus, Isaria, Panaeolus,	
	Optional neurotropic or	Phellinus, Phellinus, Piptoporus, Pleurotus,	
	nootropic fungal or plant	Polyporus or Trametes species or combinations thereof; Bacopa monnien,	V-2000
	extracts, or other natural products, or purified	Centella asiatica, Gingko biloba, Zingiber	10 µg to 500 mg
	compounds thereof	officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum	
		onites, Rosmarinus officinalis, Rosmarinus	
		eriocalyx, Curcuma longa, Camellia sinensis, Psychotria viridis, inter alia	
	Optional MAO inhibitor	β-carbolines (e.g., harmane, harmine, nor harmine, periolyrine, harmol, cordysinin, inter	10 ng to 10 mg
	compounds	alia)	to fig to formig
	Optional adversive	Niacin, capsaicin, ipecac, apomorphine, bittering agents (e.g., denatonium benzoate)	10 µg to 200 mg
	131	inter alia	
	Optional pharmaceutical excipients	Fillers, binders, diluents, vehicles, lubricants, preservatives, flavors, colors, etc.	quantum sufficiet
	1.00.00.00.00.00.00.00.00.00.00.00.00.00		
2. The composition of	1. Priority Document	of Int'l Pat. App. Pub. No. WO/202	21/101926
claim 1, wherein the	_	MPOSITIONS FOR ENHANCING	
one or more		ority date 9 April 2020)	LECIGIE
tryptamines are	001011011111111111111111111111111111111	J. I.p. 11 2020)	
psilocybin, psilocin,	From page 26		
norpsilocin, baeocystin,	110m page 20		
norbaeocystin, N,N-			
dimethyltryptamine			
(DMT), or			
combinations thereof.			
comomations thereof.			

Component Tryptamine neurotrophics, tryptamine derivatives, esters, or salts thereof, or extracts from fungi or oblants; In addition to or elternatively, obenethylamines, amphetamines; derivatives thereof, extracts from fungi or oblants Optional secondary neurotrophic fungal or oblant extracts, or purified compounds thereof Optional neurotropic or nootropic fungal or plant extracts, or other natural products, or purified compounds thereof	Psilocybin, baeocystin, norbaeocystin, psilocin norpsilocin, 4-hydroxytryptamine, N,N-dimethyltryptamine, N-methyltryptamine inter alia; In addition or alternatively, 3,4,5-trimethoxyphenethylamine (Mescaline), 2,4-dimethoxy-amphetamine (2,4-DMA), 3,4-dimethoxy-amphetamine (3,4-DMA), 3,4-methylenedioxy-amphetamine (MDA), 3-methoxy-4,5-methylendioxy-amphetamine (MMDA), inter alia Erinacines, hericenones, cannabidiol, cannabichromene, cannabigerol, Δ8-tetrahydrocannabinol, Δ9-tetrahydrocannabinol, cannabinol, tetrahydrocannabinol, cannabidiol-2',6'-dimethyl ether, inter alia Antrodia, Beauveria, Copelandia, Cordyceps, Fomitopsis, Ganoderma, Grifola, Hericium, Hypsizygus, Inonotus, Isaria, Panaeolus, Phellinus, Phellinus, Piptoporus, Pleurotus, Polyporus or Trametes species or combinations thereof; Bacopa monnien, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum onites, Rosmańnus officinalis, Rosmańnus	10 ng to 10 mg 10 ng to 500 mg
ryptamine derivatives, esters, or salts thereof, or extracts from fungi or plants; In addition to or alternatively, phenethylamines, amphetamines; derivatives thereof, extracts from fungi or plants. Optional secondary neurotrophic fungal or plant extracts, or purified compounds thereof. Optional neurotropic or nootropic fungal or plant extracts, or other natural products, or purified	psilocin norpsilocin, 4-hydroxytryptamine, N,N-dimethyltryptamine, N-methyltryptamine inter alia; In addition or alternatively, 3,4,5-trimethoxyphenethylamine (Mescaline), 2,4-dimethoxy-amphetamine (2,4-DMA), 3,4-dimethoxy-amphetamine (3,4-DMA), 3,4-methylenedioxy-amphetamine (MDA), 3-methoxy-4,5-methylendioxy-amphetamine (MMDA), inter alia Erinacines, hericenones, cannabidiol, cannabichromene, cannabigerol, Δ8-tetrahydrocannabinol, cannabidol-2',6'-dimethyl ether, inter alia Antrodia, Beauveria, Copelandia, Cordyceps, Fomitopsis, Ganoderma, Grifola, Hericium, Hypsizygus, Inonotus, Isaria, Panaeolus, Phellinus, Phellinus, Piptoporus, Pleurotus, Polyporus or Trametes species or combinations thereof, Bacopa monnien, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum	10 ng to 500 mg
Optional secondary neurotrophic fungal or plant extracts, or purified compounds thereof Optional neurotropic or nootropic fungal or plant extracts, or other natural products, or purified	cannabichromene, cannabigerol, Δ8-tetrahydrocannabinol, Δ9-tetrahydrocannabinol, cannabinol, tetrahydrocannabivarin, cannabidiol-2',6'-dimethyl ether, inter alia Antrodia, Beauveria, Copelandia, Cordyceps, Fomitopsis, Ganoderma, Grifola, Hericium, Hypsizygus, Inonotus, Isaria, Panaeolus, Phellinus, Phellinus, Piptoporus, Pleurotus, Polyporus or Trametes species or combinations thereof; Bacopa monnien, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum	
nootropic fungal or plant extracts, or other natural products, or purified	Fomitopsis, Ganoderma, Grifola, Hericium, Hypsizygus, Inonotus, Isaria, Panaeolus, Phellinus, Phellinus, Piptoporus, Pleurotus, Polyporus or Trametes species or combinations thereof; Bacopa monnien, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum	10 μg to 500 mg
	eriocalyx, Curcuma longa, Camellia sinensis, Psychotria viridis, inter alia	
Optional MAO inhibitor compounds	β-carbolines (e.g., harmane, harmine, nor harmine, perlolyrine, harmol, cordysinin, inter alia)	10 ng to 10 mg
Optional adversive	Niacin, capsaicin, ipecac, apomorphine, bittering agents (e.g., denatonium benzoate) inter alia	10 µg to 200 mg
Optional pharmaceutical excipients	Fillers, binders, diluents, vehicles, lubricants, preservatives, flavors, colors, etc.	quantum sufficiet
TRYPTAMINE CO	MPOSITIONS FOR ENHANCING	
e U	Priority Document 'RYPTAMINE CO UTGROWTH'' (Pri	Priority Document of Int'l Pat. App. Pub. No. WO/202 'RYPTAMINE COMPOSITIONS FOR ENHANCING UTGROWTH' (Priority date 9 April 2020)

	Table 1. Exemplary neur	otropic or nootropic compositions	
	Component	Example	Dosage
	Tryptamine neurotrophics, tryptamine derivatives, esters, or salts thereof, or extracts from fungi or plants; In addition to or alternatively, phenethylamines, amphetamines; derivatives thereof, extracts from fungi or plants	Psilocybin, baeocystin, norbaeocystin, psilocin norpsilocin, 4-hydroxytryptamine, N,N-dimethyltryptamine, N-methyltryptamine, inter alia; In addition or alternatively, 3,4,5-trimethoxyphenethylamine (Mescaline), 2,4-dimethoxy-amphetamine (2,4-DMA), 3,4-dimethoxy-amphetamine (3,4-DMA), 3,4-methylenedioxy-amphetamine (MDA), 3-methoxy-4,5-methylendioxy-amphetamine (MMDA), inter alia	10 ng to 10 mg
	Optional secondary neurotrophic fungal or plant extracts, or purified compounds thereof	Erinacines, hericenones, cannabidiol, cannabichromene, cannabigerol, Δ8-tetrahydrocannabinol, Δ9-tetrahydrocannabinol, cannabinol, tetrahydrocannabivarin, cannabidiol-2',6'-dimethyl ether, inter alia Antrodia, Beauveria, Copelandia, Cordyceps,	10 ng to 500 mg
	Optional neurotropic or nootropic fungal or plant extracts, or other natural products, or purified compounds thereof	Fomitopsis, Ganoderma, Grifola, Hericium, Hypsizygus, Inonotus, Isaria, Panaeolus, Phellinus, Phellinus, Piptoporus, Pleurotus, Polyporus or Trametes species or combinations thereof, Bacopa monnien, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum onites, Rosmarinus officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis, Psychotria viridis, inter alia	10 μg to 500 mg
	Optional MAO inhibitor compounds	β-carbolines (e.g., harmane, harmine, nor harmine, periolyrine, harmol, cordysinin, inter alia)	10 ng to 10 mg
	Optional adversive	Niacin, capsaicin, ipecac, apomorphine, bittering agents (e.g., denatonium benzoate) inter alia	10 μg to 200 mg
	Optional pharmaceutical excipients	Fillers, binders, diluents, vehicles, lubricants, preservatives, flavors, colors, etc.	quantum sufficiet
4. The composition of	1. Priority Document	of Int'l Pat. App. Pub. No. WO/202	21/101926
claim 21, wherein the	•	MPOSITIONS FOR ENHANCING	
composition comprises		iority date 9 April 2020)	TLORIL
about 1 ng to about		10111, auto / 11p111 2020)	
2000 mg of the extracts	From page 26		
or isolates from	1 Tom page 20		
Hericium erinaceus			
mushroom species,			
erinacines, hericenones,			
or combinations			
thereof.			
mercor.			

	Table 1. Exemplary neuro	otropic or nootropic compositions	
	Component	Example	Dosage
	Tryptamine neurotrophics, tryptamine derivatives, esters, or salts thereof, or extracts from fungi or plants; In addition to or alternatively, phenethylamines, amphetamines; derivatives thereof, extracts from fungi or plants	Psilocybin, baeocystin, norbaeocystin, psilocin norpsilocin, 4-hydroxytryptamine, N,N-dimethyltryptamine, N-methyltryptamine, inter alia; In addition or alternatively, 3,4,5-trimethoxyphenethylamine (Mescaline), 2,4-dimethoxy-amphetamine (2,4-DMA), 3,4-methylenedioxy-amphetamine (MDA), 3-methoxy-4,5-methylendioxy-amphetamine (MDA), inter alia	10 ng to 10 mg
	Optional secondary neurotrophic fungal or plant extracts, or purified compounds thereof	Erinacines, hericenones, cannabidiol, cannabichromene, cannabigerol, Δ8-tetrahydrocannabinol, Δ9-tetrahydrocannabinol, cannabinol, tetrahydrocannabivarin, cannabidiol-2',6'-dimethyl ether, inter alia Antrodia, Beauveria, Copelandia, Cordyceps, Fomitopsis, Ganoderma, Grifola, Hericium,	10 ng to 500 mg
	Optional neurotropic or nootropic fungal or plant extracts, or other natural products, or purified compounds thereof	Hypsizygus, inonotus, isana, Panaeoius, Phellinus, Phellinus, Piptoporus, Pleurotus, Polyporus or Trametes species or combinations thereof, Bacopa monnien, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum onites, Rosmarinus officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis, Psychotria viridis, inter alia	10 µg to 500 mg
	Optional MAO inhibitor compounds	β-carbolines (e.g., harmane, harmine, nor harmine, periolyrine, harmol, cordysinin, inter alia)	10 ng to 10 mg
	Optional adversive	Niacin, capsaicin, ipecac, apomorphine, bittering agents (e.g., denatonium benzoate) inter alia	10 µg to 200 mg
	Optional pharmaceutical excipients	Fillers, binders, diluents, vehicles, lubricants, preservatives, flavors, colors, etc.	quantum sufficiet
5. (canceled)			
6. The composition of		of Int'l Pat. App. Pub. No. WO/202	
claim 1, wherein the		MPOSITIONS FOR ENHANCING	NEURITE
composition comprises	`	ority date 9 April 2020)	
about 70 mg to about	From page 26		
200 mg of the one or			
more monoamine			
oxidase inhibitors			

	Table 1. Exemplary neuro	otropic or nootropic compositions	
	Component	Example	Dosage
	Tryptamine neurotrophics, tryptamine derivatives, esters, or salts thereof, or extracts from fungi or plants; In addition to or alternatively, phenethylamines, amphetamines; derivatives thereof, extracts from fungi or	Psilocybin, baeocystin, norbaeocystin, psilocin norpsilocin, 4-hydroxytryptamine, N,N-dimethyltryptamine, N-methyltryptamine, inter alia; In addition or alternatively, 3,4,5-trimethoxyphenethylamine (Mescaline), 2,4-dimethoxy-amphetamine (2,4-DMA), 3,4-dimethoxy-amphetamine (3,4-DMA), 3,4-methylenedioxy-amphetamine (MDA), 3-methoxy-4,5-methylendioxy-amphetamine (MMDA), inter alia	10 ng to 10 mg
	optional secondary neurotrophic fungal or plant extracts, or purified compounds thereof	Erinacines, hericenones, cannabidiol, cannabichromene, cannabigerol, Δ8-tetrahydrocannabinol, Δ9-tetrahydrocannabinol, cannabinol, tetrahydrocannabivarin, cannabidiol-2',6'-dimethyl ether, inter alia Antrodia, Beauveria, Copelandia, Cordyceps,	10 ng to 500 mg
	Optional neurotropic or nootropic fungal or plant extracts, or other natural products, or purified compounds thereof	Fomitopsis, Ganoderma, Grifola, Hericium, Hypsizygus, Inonotus, Isaria, Panaeolus, Phellinus, Phellinus, Piptoporus, Pleurotus, Polyporus or Trametes species or combinations thereof; Bacopa monnien, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum onites, Rosmarinus officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis, Psychotria viridis, inter alia	10 μg to 500 mg
	Optional MAO inhibitor compounds	β-carbolines (e.g., harmane, harmine, nor harmine, periolyrine, harmol, cordysinin, inter alia)	10 ng to 10 mg
	Optional adversive Optional pharmaceutical excipients	Niacin, capsaicin, ipecac, apomorphine, bittering agents (e.g., denatonium benzoate) inter alia Fillers, binders, diluents, vehicles, lubricants, preservatives, flavors, colors, etc.	10 µg to 200 mg
	herein can be admin more times per day.' From paragraph [004	or more dosage forms of the composistered, for example, 1x, 2x, 3x, 4x, 4x, 4x, 4x, 4x, 4x, 4x, 4x, 4x, 4	x, 5x, 6x, or even 2/738,925): "The
	term aosage as use	a nerein rejers to the aamthistering	or a specific
	amount, number, and typically 1 day."	frequency of doses over a specified	
claim 61, wherein the one or more	typically 1 day." 1. Priority Document "TRYPTAMINE CO	· · · · · · · · · · · · · · · · · · ·	21/101926
7. The composition of claim 61, wherein the one or more monoamine oxidase inhibitors is Norharman, Harmine, 1,2,3,4-tetrahydro-β-carboline-3-carboxylic	typically 1 day." 1. Priority Document "TRYPTAMINE CO	frequency of doses over a specified of Int'l Pat. App. Pub. No. WO/202 MPOSITIONS FOR ENHANCING	21/101926

methyl-2,3,4,9-	Table 1. Exemplary neuro	otropic or nootropic compositions	
tetrahydro-1H-β-	Component	Example	Dosage
carboline-1,3-	Tryptamine neurotrophics, tryptamine derivatives,	Psilocybin, baeocystin, norbaeocystin,	
dicarboxylic acid,	esters, or salts thereof, or extracts from fungi or	psilocin norpsilocin, 4-hydroxytryptamine, N,N-dimethyltryptamine, N-methyltryptamine,	
Harmaline, N-methoxy-	plants; In addition to or	inter alia; In addition or alternatively, 3,4,5-trimethoxyphenethylamine (Mescaline), 2,4-	72
1-vinyl-β-carboline,	alternatively, phenethylamines,	dimethoxy-amphetamine (2,4-DMA), 3,4-	10 ng to 10 mg
ethyl 9H-β-arboline-3-	amphetamines;	dimethoxy-amphetamine (3,4-DMA), 3,4- methylenedioxy-amphetamine (MDA), 3-	
carboxylate, 1-furyl-β-	derivatives thereof, extracts from fungi or	methoxy-4,5-methylendioxy-amphetamine (MMDA), inter alia	
carboline-3-carboxylic	plants	Erinacines, hericenones, cannabidiol,	
acid, 1-[5-	Optional secondary	cannabichromene, cannabigerol, Δ8-	
(methoxymethyl)-2-	neurotrophic fungal or plant extracts, or purified	tetrahydrocannabinol, Δ9- tetrahydrocannabinol, cannabinol,	10 ng to 500 mg
furyl]-9H-β-carboline-	compounds thereof	tetrahydrocannabivarin, cannabidiol-2',6'- dimethyl ether, inter alia	
3-carboxylic acid, 6-		Antrodia, Beauveria, Copelandia, Cordyceps,	
hydroxy-3-(6-hydroxy-		Fomitopsis, Ganoderma, Grifola, Hericium, Hypsizygus, Inonotus, Isaria, Panaeolus,	
1H-indol-3-yl)-9H-β-	Optional neurotropic or	Phellinus, Phellinus, Piptoporus, Pleurotus,	
carboline-4-carboxylic	nootropic fungal or plant extracts, or other natural	Polyporus or Trametes species or combinations thereof; Bacopa monnien,	10 µg to 500 mg
acid, Strictosidine,	products, or purified	Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum	to pg to 500 mg
(1S)-1-{[(2S,3R,4S)-2-	compounds thereof	cuspidatum, Origanum vulgare, Origanum	
(β-L-		onites, Rosmarinus officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis,	
glucopyranosyloxy)-5-		Psychotria viridis, inter alia β-carbolines (e.g., harmane, harmine, nor	I
(methoxycarbonyl)-3-	Optional MAO inhibitor compounds	harmine, periolyrine, harmol, cordysinin, inter	10 ng to 10 mg
vinyl-3,4-dihydro-2H-		alia) Niacin, capsaicin, ipecac, apomorphine,	22 28
pyran-4-yl]methyl}-	Optional adversive	bittering agents (e.g., denatonium benzoate) inter alia	10 µg to 200 mg
2,3,4,9-tetrahydro-1H-	Optional pharmaceutical	Fillers, binders, diluents, vehicles, lubricants,	quantum sufficiet
β-carboline-1,3-	excipients	preservatives, flavors, colors, etc.	quantum sumast
dicarboxylic acid, or			
combinations thereof.			
8. (canceled)			
9. (canceled)			
10. (canceled)			
11. (canceled)			
12. (canceled)			
13. (canceled)			
14. (canceled)			
15. A method for		of Int'l Pat. App. Pub. No. WO/202	
treating or modulating		MPOSITIONS FOR ENHANCING	NEURITE
an inflammatory	OUTGROWTH" (Pri	ority date 9 April 2020)	
response triggered by			
an infectious disease or	From page 26		
condition, the method			
comprising:			
administering a			
composition to a			
subject in need thereof,	i		

the composition comprising:
one or more tryptamines, salts thereof, or combinations thereof; extracts or isolates from *Hericium erinaceus* mushroom species, erinacines, hericenones, or combinations thereof; and one or more monoamine oxidase inhibitors.

Component	Example	Dosage
Tryptamine neurotrophics, tryptamine derivatives, esters, or salts thereof, or extracts from fungi or plants; In addition to or alternatively, phenethylamines, amphetamines; derivatives thereof, extracts from fungi or plants	Psilocybin, baeocystin, norbaeocystin, psilocin norpsilocin, 4-hydroxytryptamine, N,N-dimethyltryptamine, N-methyltryptamine, inter alia; In addition or alternatively, 3,4,5-trimethoxyphenethylamine (Mescaline), 2,4-dimethoxy-amphetamine (2,4-DMA), 3,4-methylenedioxy-amphetamine (MDA), 3-methoxy-4,5-methylendioxy-amphetamine (MDA), inter alia	10 ng to 10 mg
Optional secondary neurotrophic fungal or plant extracts, or purified compounds thereof	Erinacines, hericenones, cannabidiol, cannabichromene, cannabigerol, Δ8-tetrahydrocannabinol, Δ9-tetrahydrocannabinol, cannabinol, tetrahydrocannabinol, cannabidiol-2',6'-dimethyl ether, inter alia Antrodia, Beauveria, Copelandia, Cordycep: Fomitopsis, Ganoderma, Grifola, Hericium,	10 ng to 500 mg
Optional neurotropic or nootropic fungal or plant extracts, or other natural products, or purified compounds thereof	Hypsizygus, inonotus, isana, Panaeolus, Phellinus, Phellinus, Piptoporus, Pleurotus, Polyporus or Trametes species or combinations thereof; Bacopa monnien, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum onites, Rosmarinus officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis, Psychotria viridis, inter alia	10 μg to 500 mg
Optional MAO inhibitor compounds	β-carbolines (e.g., harmane, harmine, nor harmine, periolyrine, harmol, cordysinin, inter alia)	10 ng to 10 mg
Optional adversive	Niacin, capsaicin, ipecac, apomorphine, bittering agents (e.g., denatonium benzoate) inter alia	10 µg to 200 mg
Optional pharmaceutical excipients	Fillers, binders, diluents, vehicles, lubricants, preservatives, flavors, colors, etc.	quantum sufficiet

From claim 18 "The composition of claim 1, wherein the composition is effective to treat, alleviate, prevent or ameliorate...neuronal injuries or physical neurodegeneration (e.g...neurotoxic viruses...)"

From page 12 "In an embodiment, to ameliorating the disease or disorder (I.e., slowing or arresting or reducing the development of the disease or at least one of the clinical symptoms thereof)."

2. NUZZO (2021) "Post-Acute COVID-19 Neurological Syndrome: A New Medical Challenge" Journal of Clinical Medicine. Vol 10(9):1947.

From abstract "Neurological complications after severe COVID-19 infection might include delirium, brain inflammation, stroke, and nerve damage."

From page 4 "Furthermore, high levels of inflammation (cytokine storm) and BBB lesions in the brain are very likely to have long-term consequences on neurodegeneration."

16. The method of claim 15, wherein the composition comprises about 1 ng to about 10 mg, about 10 mg to about 100 mg, about 10 mg to about 20 mg, about 20 mg to about 50 mg, about 20 mg to about 100 mg, about 1 ng to about 20 mg, about 1 ng to about 50 mg, or about 1 ng to about 100 mg of the one or more tryptamines, salts thereof, or combinations thereof.

1. Priority Document of Int'l Pat. App. Pub. No. WO/2021/101926 "TRYPTAMINE COMPOSITIONS FOR ENHANCING NEURITE OUTGROWTH" (Priority date 9 April 2020)

From page 26

Component	Example	Dosage
Tryptamine neurotrophics, tryptamine derivatives, esters, or salts thereof, or extracts from fungi or plants; In addition to or alternatively, phenethylamines, amphetamines; derivatives thereof, extracts from fungi or plants	Psilocybin, baeocystin, norbaeocystin, psilocin norpsilocin, 4-hydroxytryptamine, N,N-dimethyltryptamine, N-methyltryptamine, inter alia; In addition or alternatively, 3,4,5-trimethoxyphenethylamine (Mescaline), 2,4-dimethoxy-amphetamine (2,4-DMA), 3,4-dimethoxy-amphetamine (3,4-DMA), 3,4-methylenedioxy-amphetamine (MDA), 3-methoxy-4,5-methylendioxy-amphetamine (MMDA), inter alia	10 ng to 10 mg
Optional secondary neurotrophic fungal or	Erinacines, hericenones, cannabidiol, cannabichromene, cannabigerol, Δ8-tetrahydrocannabinol, Δ9-	
plant extracts, or purified compounds thereof	tetrahydrocannabinol, cannabinol, tetrahydrocannabivarin, cannabidiol-2',6'- dimethyl ether, inter alia	10 ng to 500 mg
Optional neurotropic or nootropic fungal or plant extracts, or other natural products, or purified compounds thereof	Antrodia, Beauveria, Copelandia, Cordyceps, Fomitopsis, Ganoderma, Grifola, Hericium, Hypsizygus, Inonotus, Isaria, Panaeolus, Phellinus, Phellinus, Piptoporus, Pleurotus, Polyporus or Trametes species or combinations thereof; Bacopa monnien, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum	10 µg to 500 mg
Optional MAO inhibitor compounds	onites, Rosmarinus officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis, Psychotria viridis, inter alia β-carbolines (e.g., harmane, harmine, nor harmine, perlolyrine, harmol, cordysinin, inter alia)	10 ng to 10 mg
Optional adversive	Niacin, capsaicin, ipecac, apomorphine, bittering agents (e.g., denatonium benzoate) inter alia	10 µg to 200 mg
Optional pharmaceutical excipients	Fillers, binders, diluents, vehicles, lubricants, preservatives, flavors, colors, etc.	quantum sufficie

From claim 18 "The composition of claim 1, wherein the composition is effective to treat, alleviate, prevent or ameliorate...neuronal injuries or physical neurodegeneration (e.g....neurotoxic viruses...)"

From **page 12** "In an embodiment, to ameliorating the disease or disorder (I.e., slowing or arresting or **reducing the development of the disease or at least one of the clinical symptoms thereof**)."

2. NUZZO (2021) "Post-Acute COVID-19 Neurological Syndrome: A New Medical Challenge" Journal of Clinical Medicine. Vol 10(9):1947.

From abstract "Neurological complications after severe COVID-19 infection might include delirium, brain inflammation, stroke, and nerve damage."

		rmore, high levels of inflammation he brain are very likely to have lourodegeneration."	. •
17. The method of claim 15, wherein the one or more tryptamines are	"TRYPTAMINE CO	of Int'l Pat. App. Pub. No. WO/202 MPOSITIONS FOR ENHANCING ority date 9 April 2020)	
psilocybin, psilocin,	From page 26		
norpsilocin, baeocystin,	Table 1. Exemplary neuro	otropic or nootropic compositions	
norbaeocystin, N,N-	Component	Example	Dosage
dimethyltryptamine (DMT), or combinations thereof.	Tryptamine neurotrophics, tryptamine derivatives, esters, or salts thereof, or extracts from fungi or plants; In addition to or alternatively, phenethylamines, amphetamines; derivatives thereof, extracts from fungi or plants	Psilocybin, baeocystin, norbaeocystin, psilocin norpsilocin, 4-hydroxytryptamine, N,N-dimethyltryptamine, N-methyltryptamine, inter alia; In addition or alternatively, 3,4,5-trimethoxyphenethylamine (Mescaline), 2,4-dimethoxy-amphetamine (2,4-DMA), 3,4-dimethoxy-amphetamine (3,4-DMA), 3,4-methylenedioxy-amphetamine (MDA), 3-methoxy-4,5-methylendioxy-amphetamine (MMDA), inter alia	10 ng to 10 mg
	Optional secondary neurotrophic fungal or plant extracts, or purified compounds thereof	Erinacines, hericenones, cannabidiol, cannabichromene, cannabigerol, Δ8-tetrahydrocannabinol, Δ9-tetrahydrocannabinol, cannabinol, tetrahydrocannabivarin, cannabidiol-2',6'-dimethyl ether, inter alia Antrodia, Beauveria, Copelandia, Cordyceps,	10 ng to 500 mg
	Optional neurotropic or nootropic fungal or plant extracts, or other natural products, or purified compounds thereof	Fomitopsis, Ganoderma, Grifola, Hericium, Hypsizygus, Inonotus, Isaria, Panaeolus, Phellinus, Phellinus, Piptoporus, Pleurotus, Polyporus or Trametes species or combinations thereof; Bacopa monnien, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum onites, Rosmarinus officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis, Psychotria viridis, inter alia	10 μg to 500 mg
	Optional MAO inhibitor compounds	β-carbolines (e.g., harmane, harmine, nor harmine, perlolyrine, harmol, cordysinin, inter alia)	10 ng to 10 mg
	Optional adversive	Niacin, capsaicin, ipecac, apomorphine, bittering agents (e.g., denatonium benzoate) inter alia	10 µg to 200 mg
	Optional pharmaceutical excipients	Fillers, binders, diluents, vehicles, lubricants, preservatives, flavors, colors, etc.	quantum sufficiet
	effective to treat, allophysical neurodegen From page 12 "In an (I.e., slowing or arres	composition of claim 1, wherein the eviate, prevent or ameliorateneu neration (e.gneurotoxic viruses) embodiment, to ameliorating the diting or reducing the development cal symptoms thereof)."	uronal injuries or)" sease or disorder
	` ′	ost-Acute COVID-19 Neurological Journal of Clinical Medicine. Vol 10	•

From abstract "Neurological complications after severe COVID-19 infection might include delirium, brain inflammation, stroke, and nerve damage."

From page 4 "Furthermore, high levels of inflammation (cytokine storm) and BBB lesions in the brain are very likely to have long-term consequences on neurodegeneration."

18. The method of claim 15, wherein the composition comprises about 1 ng to about 2000 mg of the extracts or isolates from *Hericium erinaceus* mushroom species, erinacines, hericenones, or combinations thereof.

1. Priority Document of Int'l Pat. App. Pub. No. WO/2021/101926 "TRYPTAMINE COMPOSITIONS FOR ENHANCING NEURITE OUTGROWTH" (Priority date 9 April 2020)

From page 26

Component	Example	Dosage
Tryptamine neurotrophics, tryptamine derivatives, esters, or salts thereof, or extracts from fungi or plants; In addition to or alternatively, phenethylamines, amphetamines; derivatives thereof, extracts from fungi or plants	Psilocybin, baeocystin, norbaeocystin, psilocin norpsilocin, 4-hydroxytryptamine, N,N-dimethyltryptamine, N-methyltryptamine, inter alia; In addition or alternatively, 3,4,5-trimethoxyphenethylamine (Mescaline), 2,4-dimethoxy-amphetamine (2,4-DMA), 3,4-dimethoxy-amphetamine (3,4-DMA), 3,4-methylenedioxy-amphetamine (MDA), 3-methoxy-4,5-methylendioxy-amphetamine (MMDA), inter alia	10 ng to 10 mg
Optional secondary neurotrophic fungal or plant extracts, or purified compounds thereof	Erinacines, hericenones, cannabidiol, cannabichromene, cannabigerol, Δ8-tetrahydrocannabinol, Δ9-tetrahydrocannabinol, cannabinol, tetrahydrocannabinol, cannabidiol-2',6'-dimethyl ether, inter alia Antrodia, Beauveria, Copelandia, Cordyceps, Fomitopsis, Ganoderma, Grifola, Hericium,	10 ng to 500 mg
Optional neurotropic or nootropic fungal or plant extracts, or other natural products, or purified compounds thereof	Phybrizygus, Inditius, Isalia, Paliaedius, Phellinus, Phellinus, Piptoporus, Pleurotus, Polyporus or Trametes species or combinations thereof, Bacopa monnien, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum onites, Rosmarinus officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis, Psychotria viridis, inter alia	10 µg to 500 mg
Optional MAO inhibitor compounds	β-carbolines (e.g., harmane, harmine, nor harmine, periolyrine, harmol, cordysinin, inter alia)	10 ng to 10 mg
Optional adversive	Niacin, capsaicin, ipecac, apomorphine, bittering agents (e.g., denatonium benzoate) inter alia	10 µg to 200 mg
Optional pharmaceutical excipients	Fillers, binders, diluents, vehicles, lubricants, preservatives, flavors, colors, etc.	quantum sufficie

From claim 18 "The composition of claim 1, wherein the composition is effective to treat, alleviate, prevent or ameliorate...neuronal injuries or physical neurodegeneration (e.g....neurotoxic viruses...)"

From **page 12** "In an embodiment, to ameliorating the disease or disorder (I.e., slowing or arresting or **reducing the development of the disease or at least one of the clinical symptoms thereof**)."

2. NUZZO (2021) "Post-Acute COVID-19 Neurological Syndrome: A New Medical Challenge" Journal of Clinical Medicine. Vol 10(9):1947.

From abstract "Neurological complications after severe COVID-19 infection might include delirium, brain inflammation, stroke, and nerve damage."

From page 4 "Furthermore, high levels of inflammation (cytokine storm) and BBB lesions in the brain are very likely to have long-term consequences on neurodegeneration."

19. (canceled)

20. The method of claim 15, wherein the composition comprises about 70 mg to about 200 mg of the one or more monoamine oxidase inhibitors.

1. Priority Document of Int'l Pat. App. Pub. No. WO/2021/101926 "TRYPTAMINE COMPOSITIONS FOR ENHANCING NEURITE OUTGROWTH" (Priority date 9 April 2020)

From page 26

Component	Example	Dosage
Tryptamine neurotrophics, tryptamine derivatives, esters, or salts thereof, or extracts from fungi or plants; in addition to or alternatively, phenethylamines, amphetamines; derivatives thereof, extracts from fungi or plants	Psilocybin, baeocystin, norbaeocystin, psilocin norpsilocin, 4-hydroxytryptamine, N,N-dimethyltryptamine, N-methyltryptamine, inter alia; In addition or alternatively, 3,4,5-trimethoxyphenethylamine (Mescaline), 2,4-dimethoxy-amphetamine (2,4-DMA), 3,4-dimethoxy-amphetamine (3,4-DMA), 3,4-methylenedioxy-amphetamine (MDA), 3-methoxy-4,5-methylendioxy-amphetamine (MMDA), inter alia	10 ng to 10 mg
Optional secondary neurotrophic fungal or plant extracts, or purified compounds thereof	Erinacines, hericenones, cannabidiol, cannabichromene, cannabigerol, Δ8-tetrahydrocannabinol, Δ9-tetrahydrocannabinol, cannabinol, tetrahydrocannabivarin, cannabidiol-2',6'-dimethyl ether, inter alia Antrodia, Beauveria, Copelandia, Cordyceps,	10 ng to 500 mg
Optional neurotropic or nootropic fungal or plant extracts, or other natural products, or purified compounds thereof	Fornitopsis, Ganoderma, Grifola, Hericium, Hypsizygus, Inonotus, Isaria, Panaeolus, Phellinus, Phellinus, Piptoporus, Pleurotus, Polyporus or Trametes species or combinations thereof, Bacopa monnien, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum onites, Rosmarinus officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis, Psychotria viridis inter alia	10 μg to 500 mg
Optional MAO inhibitor compounds	β-carbolines (e.g., harmane, harmine, nor harmine, periolyrine, harmol, cordysinin, inter alia)	10 ng to 10 mg
Optional adversive	Niacin, capsaicin, ipecac, apomorphine, bittering agents (e.g., denatonium benzoate) inter alia	10 µg to 200 mg
Optional pharmaceutical excipients	Fillers, binders, diluents, vehicles, lubricants, preservatives, flavors, colors, etc.	quantum sufficie

From claim 18 "The composition of claim 1, wherein the composition is effective to treat, alleviate, prevent or ameliorate...neuronal injuries or physical neurodegeneration (e.g....neurotoxic viruses...)"

From **page 12** "In an embodiment, to ameliorating the disease or disorder (I.e., slowing or arresting or **reducing the development of the disease or at least one of the clinical symptoms thereof**)."

From page 37 "One or more dosage forms of the compositions described herein can be administered, for example, 1x, 2x, 3x, 4x, 5x, 6x, or even more times per day."

From paragraph [0041] of the application of interest (17/738,925): "The term "dosage" as used herein refers to the administering of a specific amount, number, and frequency of doses over a specified period of time, typically 1 day."

2. NUZZO (2021) "Post-Acute COVID-19 Neurological Syndrome: A New Medical Challenge" Journal of Clinical Medicine. Vol 10(9):1947.

From abstract "Neurological complications after severe COVID-19 infection might include delirium, brain inflammation, stroke, and nerve damage."

From page 4 "Furthermore, high levels of inflammation (cytokine storm) and BBB lesions in the brain are very likely to have long-term consequences on neurodegeneration."

- **21.** The method of claim 15, wherein the one or more monoamine oxidase inhibitors is Norharman, Harmine, 1,2,3,4-tetrahydro-βcarboline-3-carboxylic acid, 1-methyl-1,2,3,4tetrahydro-β-carboline-3-carboxylic acid, 1methyl-2,3,4,9tetrahydro-1H-βcarboline-1,3dicarboxylic acid, Harmaline, N-methoxy-1-vinyl-β-carboline, ethyl 9H-β-carboline-3carboxylate, 1-furyl-βcarboline-3-carboxylic
- 1. Priority Document of Int'l Pat. App. Pub. No. WO/2021/101926 "TRYPTAMINE COMPOSITIONS FOR ENHANCING NEURITE OUTGROWTH" (Priority date 9 April 2020)

From page 26

acid, 1-[5-(methoxymethyl)-2furyl]-9H-β-carboline-3-carboxylic acid, 6hydroxy-3-(6-hydroxy-1H-indol-3-yl)-9H-βcarboline-4-carboxylic acid, Strictosidine, $(1S)-1-\{[(2S,3R,4S)-2-$ (β-Lglucopyranosyloxy)-5-(methoxycarbonyl)-3vinyl-3,4-dihydro-2Hpyran-4-yl]methyl}-2,3,4,9-tetrahydro-1Hβ-carboline-1,3dicarboxylic acid, or combinations thereof.

Component	Example	Dosage
Tryptamine neurotrophics, tryptamine derivatives, esters, or salts thereof, or extracts from fungi or plants; In addition to or alternatively, phenethylamines, amphetamines; derivatives thereof, extracts from fungi or plants	Psilocybin, baeocystin, norbaeocystin, psilocin norpsilocin, 4-hydroxytryptamine, N,N-dimethyltryptamine, N-methyltryptamine, inter alia; In addition or alternatively, 3,4,5-trimethoxyphenethylamine (Mescaline), 2,4-dimethoxy-amphetamine (2,4-DMA), 3,4-dimethoxy-amphetamine (3,4-DMA), 3,4-methylenedioxy-amphetamine (MDA), 3-methoxy-4,5-methylendioxy-amphetamine (MMDA), inter alia	10 ng to 10 mg
Optional secondary neurotrophic fungal or plant extracts, or purified compounds thereof	Erinacines, hericenones, cannabidiol, cannabichromene, cannabigerol, Δ8-tetrahydrocannabinol, Δ9-tetrahydrocannabinol, cannabinol, tetrahydrocannabivarin, cannabidiol-2',6'-dimethyl ether, inter alia	10 ng to 500 mg
Optional neurotropic or nootropic fungal or plant extracts, or other natural products, or purified compounds thereof	Antrodia, Beauveria, Copelandia, Cordyceps, Fomitopsis, Ganoderma, Grifola, Hericium, Hypsizygus, Inonotus, Isaria, Panaeolus, Phellinus, Phellinus, Piptoporus, Pleurotus, Polyporus or Trametes species or combinations thereof; Bacopa monnien, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum onites, Rosmarinus officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis, Psychotria viridis inter alia	10 µg to 500 mg
Optional MAO inhibitor compounds	β-carbolines (e.g., harmane, harmine, nor harmine, periolyrine, harmol, cordysinin, inter alia)	10 ng to 10 mg
Optional adversive	Niacin, capsaicin, ipecac, apomorphine, bittering agents (e.g., denatonium benzoate) inter alia	10 µg to 200 mg
Optional pharmaceutical excipients	Fillers, binders, diluents, vehicles, lubricants, preservatives, flavors, colors, etc.	quantum sufficiet

From claim 18 "The composition of claim 1, wherein the composition is effective to treat, alleviate, prevent or ameliorate...neuronal injuries or physical neurodegeneration (e.g....neurotoxic viruses...)"

From **page 12** "In an embodiment, to ameliorating the disease or disorder (I.e., slowing or arresting or **reducing the development of the disease or at least one of the clinical symptoms thereof**)."

From page 37 "One or more dosage forms of the compositions described herein can be administered, for example, 1x, 2x, 3x, 4x, 5x, 6x, or even more times per day."

2. NUZZO (2021) "Post-Acute COVID-19 Neurological Syndrome: A New Medical Challenge" Journal of Clinical Medicine. Vol 10(9):1947.

From abstract "Neurological complications after severe COVID-19 infection might include delirium, brain inflammation, stroke, and nerve damage."

		rmore, high levels of inflammation he brain are very likely to have lourodegeneration."	. •	
22. The method of claim 15, wherein the inflammatory response is cytokine storm.	1. Priority Document of Int'l Pat. App. Pub. No. WO/2021/101926 "TRYPTAMINE COMPOSITIONS FOR ENHANCING NEURITE OUTGROWTH" (Priority date 9 April 2020)			
	From page 26			
	Table 1. Exemplary neurotropic or nootropic compositions			
	Component	Example	Dosage	
	Tryptamine neurotrophics, tryptamine derivatives, esters, or salts thereof, or extracts from fungi or plants; In addition to or alternatively, phenethylamines, amphetamines; derivatives thereof, extracts from fungi or plants	Psilocybin, baeocystin, norbaeocystin, psilocin norpsilocin, 4-hydroxytryptamine, N,N-dimethyltryptamine, N-methyltryptamine, inter alia; In addition or alternatively, 3,4,5-trimethoxyphenethylamine (Mescaline), 2,4-dimethoxy-amphetamine (2,4-DMA), 3,4-dimethoxy-amphetamine (3,4-DMA), 3,4-methylenedioxy-amphetamine (MDA), 3-methoxy-4,5-methylendioxy-amphetamine (MMDA), inter alia	10 ng to 10 mg	
	Optional secondary neurotrophic fungal or plant extracts, or purified compounds thereof	Erinacines, hericenones, cannabidiol, cannabichromene, cannabigerol, Δ8-tetrahydrocannabinol, Δ9-tetrahydrocannabinol, cannabinol, tetrahydrocannabivarin, cannabidiol-2',6'-dimethyl ether, inter alia Antrodia, Beauveria, Copelandia, Cordyceps	10 ng to 500 mg	
	Optional neurotropic or nootropic fungal or plant extracts, or other natural products, or purified compounds thereof	Fomitopsis, Ganoderma, Grifola, Hericium, Hypsizygus, Inonotus, Isana, Panaeolus, Phellinus, Phellinus, Piptoporus, Pleurotus, Polyporus or Trametes species or combinations thereof, Bacopa monnien, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum onites, Rosmarinus officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis, Psychotria viridis, inter alia	10 μg to 500 mg	
	Optional MAO inhibitor compounds	β-carbolines (e.g., harmane, harmine, nor harmine, periolyrine, harmol, cordysinin, inter alia)	10 ng to 10 mg	
	Optional adversive	Niacin, capsaicin, ipecac, apomorphine, bittering agents (e.g., denatonium benzoate) inter alia	10 μg to 200 mg	
	Optional pharmaceutical excipients	Fillers, binders, diluents, vehicles, lubricants, preservatives, flavors, colors, etc.	quantum sufficiet	
	effective to treat, allophysical neurodegen From page 12 "In an (I.e., slowing or arrest least one of the clinical and the clinical arrest least one of the clinical arrest least least one of the clinical arrest least	composition of claim 1, wherein the eviate, prevent or amelioratenet heration (e.gneurotoxic viruses) embodiment, to ameliorating the disting or reducing the development exal symptoms thereof)."	uronal injuries or)" sease or disorder of the disease or a	
		or more dosage forms of the composistered, for example, 1x, 2x, 3x, 4x,		

2. NUZZO (2021) "Post-Acute COVID-19 Neurological Syndrome: A New Medical Challenge" Journal of Clinical Medicine. Vol 10(9):1947.

From abstract "Neurological complications after severe COVID-19 infection might include delirium, brain inflammation, stroke, and nerve damage."

From page 4 "Furthermore, high levels of inflammation (cytokine storm) and BBB lesions in the brain are very likely to have long-term consequences on neurodegeneration."

23. The method of claim 15, wherein the infectious disease or condition is a viral infection, a bacterial infection, or a parasitic infection.

1. Priority Document of Int'l Pat. App. Pub. No. WO/2021/101926 "TRYPTAMINE COMPOSITIONS FOR ENHANCING NEURITE OUTGROWTH" (Priority date 9 April 2020)

From page 26

Component	Example	Dosage
Tryptamine neurotrophics, tryptamine derivatives, esters, or salts thereof, or extracts from fungi or plants; In addition to or alternatively, phenethylamines, amphetamines; derivatives thereof, extracts from fungi or plants	Psilocybin, baeocystin, norbaeocystin, psilocin norpsilocin, 4-hydroxytryptamine, N,N-dimethyltryptamine, N-methyltryptamine, inter alia; In addition or alternatively, 3,4,5-trimethoxyphenethylamine (Mescaline), 2,4-dimethoxy-amphetamine (2,4-DMA), 3,4-methylenedioxy-amphetamine (MDA), 3-methoxy-4,5-methylendioxy-amphetamine (MDA), inter alia	10 ng to 10 mg
Optional secondary neurotrophic fungal or plant extracts, or purified compounds thereof	Erinacines, hericenones, cannabidiol, cannabichromene, cannabigerol, Δ8-tetrahydrocannabinol, Δ9-tetrahydrocannabinol, cannabinol, tetrahydrocannabivarin, cannabidiol-2',6'-dimethyl ether, inter alia Antrodia, Beauveria, Copelandia, Cordyceps	10 ng to 500 mg
Optional neurotropic or nootropic fungal or plant extracts, or other natural products, or purified compounds thereof	Fomitopsis. Ganoderma, Grifola, Hericium, Hypsizygus, Inonotus, Isaria, Panaeolus, Phellinus, Phellinus, Piptoporus, Pleurotus, Polyporus or Trametes species or combinations thereof; Bacopa monnien, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum onites, Rosmarinus officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis, Psychotria viridis, inter alia	10 µg to 500 mg
Optional MAO inhibitor compounds	β-carbolines (e.g., harmane, harmine, nor harmine, periolyrine, harmol, cordysinin, inter alia)	10 ng to 10 mg
Optional adversive	Niacin, capsaicin, ipecac, apomorphine, bittering agents (e.g., denatonium benzoate) inter alia	10 µg to 200 mg
Optional pharmaceutical excipients	Fillers, binders, diluents, vehicles, lubricants, preservatives, flavors, colors, etc.	quantum sufficiet

From claim 18 "The composition of claim 1, wherein the composition is effective to treat, alleviate, prevent or ameliorate...neuronal injuries or physical neurodegeneration (e.g....neurotoxic viruses...)"

From page 12 "In an embodiment, to ameliorating the disease or disorder (I.e., slowing or arresting or reducing the development of the disease or at least one of the clinical symptoms thereof)."

From page 37 "One or more dosage forms of the compositions described herein can be administered, for example, 1x, 2x, 3x, 4x, 5x, 6x, or even more times per day."

2. NUZZO (2021) "Post-Acute COVID-19 Neurological Syndrome: A New Medical Challenge" Journal of Clinical Medicine. Vol 10(9):1947.

From abstract "Neurological complications after severe COVID-19 infection might include delirium, brain inflammation, stroke, and nerve damage."

From page 4 "Furthermore, high levels of inflammation (cytokine storm) and BBB lesions in the brain are very likely to have long-term consequences on neurodegeneration."

24. The method of claim 23, wherein the viral infection is Paramyxoviridae (respiratory syncytial virus (RSV), parainfluenza virus (PIV), metapneumovirus (MPV), enteroviruses), Picomaviridae (Rhinovirus, RV), Coronaviridae (CoV), Adenoviridae (Adenovirus), Parvoviridae (HBoV), Orthomyxoviridae (influenza A, B, C, D, Isavirus, Thogotovirus, Quaranjavirus), Herpesviridae (human herpes viruses, Varicella zoster virus, Epstein-Barr virus, cytomegalovirus),

avian influenza, smallpox, pandemic 1. Priority Document of Int'l Pat. App. Pub. No. WO/2021/101926 "TRYPTAMINE COMPOSITIONS FOR ENHANCING NEURITE OUTGROWTH" (Priority date 9 April 2020)

From page 26

influenza, or adult Table 1. Exemplary neurotropic or nootropic compositions Component Example Dosage respiratory distress Tryptamine neurotrophics, Psilocybin, baeocystin, norbaeocystin, syndrome (ARDS). tryptamine derivatives. psilocin norpsilocin, 4-hydroxytryptamine, esters, or salts thereof, or N,N-dimethyltryptamine, N-methyltryptamine, extracts from fungi or inter alia; In addition or alternatively, 3,4,5plants; In addition to or trimethoxyphenethylamine (Mescaline), 2,4alternatively 10 ng to 10 mg dimethoxy-amphetamine (2,4-DMA), 3,4phenethylamines, dimethoxy-amphetamine (3,4-DMA), 3,4amphetamines; methylenedioxy-amphetamine (MDA), 3derivatives thereof. methoxy-4,5-methylendioxy-amphetamine extracts from fungi or (MMDA), inter alia plants Erinacines, hericenones, cannabidiol, Optional secondary cannabichromene, cannabigerol, Δ8neurotrophic fungal or tetrahydrocannabinol, Δ9-10 ng to 500 mg plant extracts, or purified tetrahydrocannabinol, cannabinol, compounds thereof tetrahydrocannabivarin, cannabidiol-2',6'dimethyl ether, inter alia Antrodia, Beauveria, Copelandia, Cordyceps Fomitopsis, Ganoderma, Grifola, Hericium, Hypsizygus, Inonotus, Isaria, Panaeolus Phellinus, Phellinus, Piptoporus, Pleurotus, Optional neurotropic or Polyporus or Trametes species or nootropic fungal or plant combinations thereof; Bacopa monnien, extracts, or other natural 10 µg to 500 mg Centella asiatica, Gingko biloba, Zingiber products, or purified officinale, Ocimum sanctum, Polygonum compounds thereof cuspidatum, Origanum vulgare, Origanum onites, Rosmarinus officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis, Psychotria viridis, inter alia β-carbolines (e.g., harmane, harmine, nor Optional MAO inhibitor 10 ng to 10 mg harmine, perlolyrine, harmol, cordysinin, inter compounds Niacin, capsaicin, ipecac, apomorphine, Optional adversive bittering agents (e.g., denatonium benzoate) 10 µg to 200 mg inter alia Optional pharmaceutical Fillers, binders, diluents, vehicles, lubricants, quantum sufficiet excipients preservatives, flavors, colors, etc.

From claim 18 "The composition of claim 1, wherein the composition is effective to treat, alleviate, prevent or ameliorate...neuronal injuries or physical neurodegeneration (e.g....neurotoxic viruses...)"

From **page 12** "In an embodiment, to ameliorating the disease or disorder (I.e., slowing or arresting or **reducing the development of the disease or at least one of the clinical symptoms thereof**)."

2. NUZZO (2021) "Post-Acute COVID-19 Neurological Syndrome: A New Medical Challenge" Journal of Clinical Medicine. Vol 10(9):1947.

From abstract "Neurological complications after severe COVID-19 infection might include delirium, brain inflammation, stroke, and nerve damage."

From page 4 "Furthermore, high levels of inflammation (cytokine storm) and BBB lesions in the brain are very likely to have long-term consequences on neurodegeneration."

11. CHEN (2021) "Cytokine Storm: The Primary Determinant for the Pathophysiological Evolution of COVID-19 Deterioration" Frontiers in Immunology. Vol.12:1-11.

From page 6 "The cytokine storm is an important factor in the deterioration of some COVID-19 patients, and leads to abnormalities such as ARDS, MODS, and coagulation defects."

25. The method of claim 23, wherein the bacterial infection is Streptococcus pneumoniae, Mycobacterium tuberculosis. Bordetella pertussis, Haemophilus influenzae, Moraxella catarrhalis. Pseudomonas aeruginosa, Stenotrophomonas maltophila, Staphylococcus aureus, Streptococcus pyogenes, Neisseria meningitidis, Klebsiella pneumoniae, or Nontuberculosis Mycobacterium.

6. Int'l Pat. App. Pub. No. WO/2020/212948 "METHODS OF TREATING NEUROCOGNITIVE DISORDERS, CHRONIC PAIN AND REDUCING INFLAMMATION" (Published 22 October 2020)

From **claim 47** "A method of reducing inflammation in a subject in need thereof, the method comprising administering to the subject a **therapeutically effective amount of psilocybin** or an active metabolite thereof."

From **claim 48** "The method of claim 47, wherein administration of the psilocybin reduces the duration of the inflammation."

From claim 52 "The method of any one of claims 47-49, wherein reducing inflammation in the subject treats or prevents one or more of allergy, asthma, Alzheimer's disease, diabetes, cardiovascular disease, sepsis, arthritis, joint disease, inflammatory bowel disease, or dermatitis in the subject."

From claim 56 "A method of treating Inflammatory Bowel Disease (IBD) in a subject in need thereof, the method comprising administering to the subject a therapeutically effective amount of psilocybin or an active metabolite thereof"

From **claim 57** "The method of claim 56, wherein the **IBD** is **ulcerative colitis**."

From page 110 paragraph 2 "In some embodiments, psilocybin is administered to the subject in combination with one or more additional therapies. In some embodiments, psilocybin is administered to the subject in combination with one or more anti-depressant or anti-anxiety drugs, such as SSRIs, tricyclic antidepressants (TCAs), monoamine oxidase inhibitors (MAOIs), or serotonin norepinephrine reuptake inhibitors (SNRIs)."

7. ASKIM (2016) "Epidemiology and outcome of sepsis in adult patients with *Streptococcus pneumoniae* infection in a Norwegian county 1993—2011: an observational study" BMC Infectious Diseases. Vol. 6(223):1-9.

Title "Epidemiology and outcome of **sepsis in adult patients with** *Streptococcus pneumoniae* **infection** in a Norwegian county 1993–2011: an observational study"

8. ATARASHI (2017) "Ectopic colonization of oral bacteria in the intestine drives TH1 cell induction and inflammation" Science. Vol. 358(6361):359-365.

From **page 2** "Mining of our in-house data sets of 16S ribosomal RNA (rRNA) gene sequences revealed that several bacterial taxa—including species belonging to *Rothia, Streptococcus, Neisseria, Prevotella, and Gemella* (table S1A), all of which are aerotolerant and typically members of the oral microbiota—were significantly more abundant in the fecal microbiota of patients **with ulcerative colitis** (**UC**), primary sclerosing cholangitis (PSC), gastroesophageal reflux disease (GERD) being treated by long-term proton pump inhibitor therapy, and alcoholism, compared with that of healthy controls (Fig. 1A and table S1B)."

From **page 6** "In mouse **models of IBD**, such as T-bet—/—Rag2—/— mice, *K. pneumoniae* is known to proliferate and play an important role in triggering disease."

5. DILING (2017) "Extracts from *Hericium erinaceus* relieve inflammatory bowel disease by regulating immunity and gut microbiota" Oncotarget. Vol 8:85838-85857.

From page 85838 "The proportion of Foxp3- and IL-10-positive cells in rats in the model group was significantly lower than that in the normal group (P < 0.05), while the levels of TNF- α and NF- κ B p65 were significantly higher (P < 0.05). After treatment with *H. erinaceus* extracts, the proportion of Foxp3- and IL-10-positive cells significantly increased, especially in the alcoholic extracts (AE) (P < 0.05), compared with the model group. Nevertheless, the proportion of TNF- α - and NF- κ B p65- positive cells was significantly reduced compared with the model group (P < 0.05). Cumulatively, these results suggested that *H. erinaceus* extracts had effective anti-inflammatory effects in IBD."

26. The method of claim 23, wherein the parasitic infection is malaria.

1. Priority Document of Int'l Pat. App. Pub. No. WO/2021/101926 "TRYPTAMINE COMPOSITIONS FOR ENHANCING NEURITE OUTGROWTH" (Priority date 9 April 2020)

From **claim 8** "The composition as claimed in claim 4 wherein the active ingredient is selected from the group consisting of **psilocybin**, **psilocin**, **norpsilocin**..."

From **claim 17** "The method of preventing, managing, or treating a subject in need thereof comprising administering to said subject an effective amount of transdermal delivery device as claimed in claim 4."

From page 32 paragraph 3 "The present invention provides for a composition as described for use in the treatment, management or prevention of neurological, mood and abuse disorders or diseases, wherein the disorder may be depression, central nervous system inflammation, addiction, headache or dementia, or disorders of cognition and memory."

From **page 34 paragraph 2** "As used herein, and unless otherwise specified, the term "**Neurological Disorder**" refers to diseases of the central and peripheral nervous system...The disorders include....neuroinfections....parasitic (e.g., **malaria**, Chagas)..."

27. The method of claim 15, wherein inflammation is reduced and neuroregeneration is induced in the subject.

1. Priority Document of Int'l Pat. App. Pub. No. WO/2021/101926 "TRYPTAMINE COMPOSITIONS FOR ENHANCING NEURITE OUTGROWTH" (Priority date 9 April 2020)

From page 26

Component	Example	Dosage
Tryptamine neurotrophics, tryptamine derivatives, esters, or salts thereof, or extracts from fungi or plants; In addition to or alternatively, phenethylamines, amphetamines; derivatives thereof, extracts from fungi or plants	Psilocybin, baeocystin, norbaeocystin, psilocin norpsilocin, 4-hydroxytryptamine, N,N-dimethyltryptamine, N-methyltryptamine, inter alia; In addition or alternatively, 3,4,5-trimethoxyphenethylamine (Mescaline), 2,4-dimethoxy-amphetamine (2,4-DMA), 3,4-dimethoxy-amphetamine (3,4-DMA), 3,4-methylenedioxy-amphetamine (MDA), 3-methoxy-4,5-methylendioxy-amphetamine (MMDA), inter alia	10 ng to 10 mg
Optional secondary neurotrophic fungal or plant extracts, or purified compounds thereof	Erinacines, hericenones, cannabidiol, cannabichromene, cannabigerol, Δ8-tetrahydrocannabinol, Δ9-tetrahydrocannabinol, cannabinol, tetrahydrocannabivarin, cannabidiol-2',6'-dimethyl ether, inter alia Antrodia, Beauveria, Copelandia, Cordyceps	10 ng to 500 mg
Optional neurotropic or nootropic fungal or plant extracts, or other natural products, or purified compounds thereof	Fomitopsis, Ganoderma, Grifola, Hericium, Hypsizygus, Inonotus, Isaria, Panaeolus, Phellinus, Phellinus, Piptoporus, Pleurotus, Polyporus or Trametes species or combinations thereof, Bacopa monnien, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum onites, Rosmarinus officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis, Psychotria viridis, inter alia	10 μg to 500 mg
Optional MAO inhibitor compounds	β-carbolines (e.g., harmane, harmine, nor harmine, periolyrine, harmol, cordysinin, inter alia)	10 ng to 10 mg
Optional adversive	Niacin, capsaicin, ipecac, apomorphine, bittering agents (e.g., denatonium benzoate) inter alia	10 µg to 200 mg
Optional pharmaceutical excipients	Fillers, binders, diluents, vehicles, lubricants, preservatives, flavors, colors, etc.	quantum sufficiet

	Title "TRYPTAMINI NEURITE OUTGR	E COMPOSITIONS FOR ENHA OWTH"	NCING	
	From claim 18 "The composition of claim 1, wherein the composition is effective to treat, alleviate, prevent or ameliorateneuronal injuries or physical neurodegeneration (e.gneurotoxic viruses)"			
	(I.e., slowing or arres	embodiment, to ameliorating the diting or reducing the development cal symptoms thereof)."		
28. The method of claim 27, wherein neuroregeneration comprises neurite outgrowth.	"TRYPTAMINE CO	1. Priority Document of Int'l Pat. App. Pub. No. WO/2021/101926 "TRYPTAMINE COMPOSITIONS FOR ENHANCING NEURITE OUTGROWTH" (Priority date 9 April 2020)		
	Table 1. Exemplary neuro	otropic or nootropic compositions		
	Component	Example	Dosage	
	Tryptamine neurotrophics, tryptamine derivatives, esters, or salts thereof, or extracts from fungi or plants; In addition to or alternatively, phenethylamines, amphetamines; derivatives thereof, extracts from fungi or plants	Psilocybin, baeocystin, norbaeocystin, psilocin norpsilocin, 4-hydroxytryptamine, N,N-dimethyltryptamine, N-methyltryptamine, inter alia; In addition or alternatively, 3,4,5-trimethoxyphenethylamine (Mescaline), 2,4-dimethoxy-amphetamine (2,4-DMA), 3,4-dimethoxy-amphetamine (3,4-DMA), 3,4-methylenedioxy-amphetamine (MDA), 3-methoxy-4,5-methylendioxy-amphetamine (MMDA), inter alia	10 ng to 10 mg	
	Optional secondary neurotrophic fungal or plant extracts, or purified compounds thereof	Erinacines, hericenones, cannabidiol, cannabichromene, cannabigerol, Δ8-tetrahydrocannabinol, Δ9-tetrahydrocannabinol, cannabinol, tetrahydrocannabivarin, cannabidiol-2',6'-dimethyl ether, inter alia Antrodia, Beauveria, Copelandia, Cordyceps Fomitopsis, Ganoderma, Grifola, Hericium,	10 ng to 500 mg	
	Optional neurotropic or nootropic fungal or plant extracts, or other natural products, or purified compounds thereof	Hypsizygus, Inonotus, Isaria, Panaeolus, Phellinus, Phellinus, Piptoporus, Pleurotus, Polyporus or Trametes species or combinations thereof; Bacopa monnien, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum onites, Rosmarinus officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis, Psychotria viridis, inter alia	10 μg to 500 mg	
	Optional MAO inhibitor compounds	β-carbolines (e.g., harmane, harmine, nor harmine, periolyrine, harmol, cordysinin, inter alia)	10 ng to 10 mg	
	Optional adversive	Niacin, capsaicin, ipecac, apomorphine, bittering agents (e.g., denatonium benzoate) inter alia	10 µg to 200 mg	
	Optional pharmaceutical excipients	Fillers, binders, diluents, vehicles, lubricants, preservatives, flavors, colors, etc.	quantum sufficiet	
	Title "TRYPTAMINI NEURITE OUTGRO	E COMPOSITIONS FOR ENHA OWTH"	NCING	

From claim 18 "The composition of claim 1, wherein the composition is effective to treat, alleviate, prevent or ameliorate...neuronal injuries or physical neurodegeneration (e.g...neurotoxic viruses...)"

From **page 12** "In an embodiment, to ameliorating the disease or disorder (I.e., slowing or arresting or **reducing the development of the disease or at least one of the clinical symptoms thereof**)."

29. (canceled)

30. A method for inducing expression of an anti-inflammatory cytokine, the method comprising administering a composition to a subject in need thereof, the composition comprising: one or more tryptamines, salts thereof, or combinations thereof: extracts or isolates from Hericium erinaceus mushroom species, erinacines, hericenones, or combinations thereof: and one or more monoamine oxidase inhibitors.

9. ICEERS (2020) "Ayahuasca: Basic Info" Retrieved 6 August 2020. URL: https://www.iceers.org/ayahuasca-basic-info/

From Beta-carbolines section, paragraph 3 "Analysis of ayahuasca brews have found harmine at quantities of about 158mg per dose, which would be equivalent to a dose of about 2mg/kg for a person weighing around 70kg. This amount is sufficient to cause the inhibitory effects of monoamine oxidase, which allows the **DMT** to be orally effective. In their bioassays, Jonathan Ott and other authors found that the minimum amount of harmine needed to induce the oral activity of **DMT was about 70mg to 150mg**, or around 1mg/kg to 2mg/kg."

10. GOULART DA SILVA (2021) "Anti-inflammatory activity of ayahuasca: therapeutical implications in neurological and psychiatric diseases" Behavioural Brain Research. Vol.400:1-8.

From page 1 "Thus, the current scientific evidence, mainly in humans, make the ayahuasca a pioneer between classic psychedelics, because it has pointed its anti-inflammatory activity."

3. SZABO (2014) "Psychedelic N,N-Dimethyltryptamine and 5-Methoxy-N,N-Dimethyltryptamine Modulate Innate and Adaptive Inflammatory Responses through the Sigma-1 Receptor of Human Monocyte-Derived Dendritic Cells" PLOS One. Vol 9(8):1-12.

From page 11 "We conclude that the function of dimethyltryptamines may extend the central nervous system activity and may play a more universal role in immune regulation. Here we demonstrate for the first time that NN-DMT and 5-MeO-DMT have potent immunomodulatory effects on the functional activities of human dendritic cells operating through the sigma-1 receptor. We also show that DMT-mediated sigmar-1 activation can interfere with both innate and adaptive immune responses. On the one hand, it strongly decreases the levels of pro-inflammatory cytokines and chemokines such as IL-1 β , IL-6, TNF α and IL8, while upregulates the production of the anti-inflammatory cytokine IL-10."

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4. SHEU (2013) "Immunomodulatory effects of polysaccharides isolated from *Hericium erinaceus* on dendritic cells" Process Biochemistry. Vol 48(9):1402-1408.

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- 31. The method of claim 30, wherein the composition comprises about 1 ng to about 10 mg, about 10 mg to about 10 mg, about 20 mg, about 20 mg to about 50 mg, about 20 mg to about 100 mg, about 1 ng to about 20 mg,
- 9. ICEERS (2020) "Ayahuasca: Basic Info" Retrieved 6 August 2020. URL: https://web.archive.org/web/20200806102318/https://www.iceers.org/ayahu asca-basic-info/

From Beta-carbolines section, paragraph 3 "Analysis of ayahuasca brews have found harmine at quantities of about 158mg per dose, which would be equivalent to a dose of about 2mg/kg for a person weighing around 70kg. This amount is sufficient to cause the inhibitory effects of monoamine oxidase, which allows the **DMT** to be orally effective. In their bioassays, Jonathan Ott and other authors found that the minimum amount

about 1 ng to about 50 mg, or about 1 ng to about 100 mg of the one or more tryptamines, salts thereof, or combinations thereof.

of harmine needed to induce the oral activity of **DMT was about 70mg to 150mg**, or around 1mg/kg to 2mg/kg."

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32. The method of claim 30, wherein the one or more tryptamines are psilocybin, psilocin, norpsilocin, baeocystin, norbaeocystin, N,N-dimethyltryptamine (DMT), or combinations thereof.

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33. The method of claim 30, wherein the composition comprises about 1 ng to about 2000 mg of the extracts or isolates from *Hericium erinaceus* mushroom species, erinacines, hericenones, or combinations thereof.

5. DILING (2017) "Extracts from *Hericium erinaceus* relieve inflammatory bowel disease by regulating immunity and gut microbiota" Oncotarget. Vol 8:85838-85857.

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34. (canceled)

35. The method of claim 30, wherein the composition comprises about 70 mg to about 200 mg of the one or more monoamine oxidase inhibitors.

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36. The method of claim 30, wherein the one or more monoamine oxidase inhibitors is Norharman, Harmine, 1,2,3,4-tetrahydro-βcarboline-3-carboxylic acid, 1-methyl-1,2,3,4tetrahydro-β-carboline-3-carboxylic acid, 1methyl-2,3,4,9tetrahydro-1H-βcarboline-1,3dicarboxylic acid, Harmaline, N-methoxy-1-vinyl-β-carboline, ethyl 9H-β-arboline-3carboxylate, 1-furyl-βcarboline-3-carboxylic acid, 1-[5-(methoxymethyl)-2furyl]-9H-β-carboline-3-carboxylic acid, 6hydroxy-3-(6-hydroxy-1H-indol-3-yl)-9H-βcarboline-4-carboxylic acid, Strictosidine, $(1S)-1-\{[(2S,3R,4S)-2-$ (β-Lglucopyranosyloxy)-5-(methoxycarbonyl)-3vinyl-3,4-dihydro-2Hpyran-4-yl]methyl}-2,3,4,9-tetrahydro-1Hβ-carboline-1,3dicarboxylic acid, or combinations thereof.

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37. The method of claim 30, wherein the anti-inflammatory cytokine is IL-4, IL-10, IL-1RA, or a combination thereof.

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	4. SHEU (2013) "Immunomodulatory effects of polysaccharides isolated from Hericium erinaceus on dendritic cells" Process Biochemistry. Vol 48(9):1402-1408.
	From page 1402 "Hericium erinaceus (H. erinaceus; HE) polysaccharides (HE-PS) have been shown to have immunomodulatory activity. We found that the bioactive components of β-glucan derivatives consisted of 20% in HE-PS. We used an analytic platform for investigating the effects of HE-PS on the maturation of rat dendritic cells (DCs), which
	are derived from rat bone marrow hematopoietic cells (BMHCs). The results showed that treatment with 50 μg/mL HE-PS changed the morphology of the DCs to an active form in parallel with a significant two fold increase in MHC class II and CD80/86 surface antigens compared to the control. Furthermore, endocytosis by the DCs was significantly reduced at the same dosage. IL-12, IFN-γ and IL-10 cytokine secretion was significantly increased by 2.7, 1.5 and 1.6-fold, respectively, compared to the control after treatment with 50 μg/mL of HE-PS."
38. The method of claim 30, wherein inflammation is reduced and neuroregeneration is induced in the subject.	1. Priority Document of Int'l Pat. App. Pub. No. WO/2021/101926 "TRYPTAMINE COMPOSITIONS FOR ENHANCING NEURITE OUTGROWTH" (Priority date 9 April 2020) From page 26

Component	Example	Dosage
Tryptamine neurotrophics, tryptamine derivatives, esters, or salts thereof, or extracts from fungi or plants; In addition to or alternatively, phenethylamines, amphetamines; derivatives thereof, extracts from fungi or plants	Psilocybin, baeocystin, norbaeocystin, psilocin norpsilocin, 4-hydroxytryptamine, N,N-dimethyltryptamine, N-methyltryptamine, inter alia; In addition or alternatively, 3,4,5-trimethoxyphenethylamine (Mescaline), 2,4-dimethoxy-amphetamine (2,4-DMA), 3,4-methylenedioxy-amphetamine (MDA), 3-methoxy-4,5-methylendioxy-amphetamine (MDA), inter alia	10 ng to 10 mg
Optional secondary neurotrophic fungal or plant extracts, or purified compounds thereof	Erinacines, hericenones, cannabidiol, cannabichromene, cannabigerol, Δ8-tetrahydrocannabinol, Δ9-tetrahydrocannabinol, cannabinol, tetrahydrocannabivarin, cannabidiol-2',6'-dimethyl ether, inter alia Antrodia, Beauveria, Copelandia, Cordyceps,	10 ng to 500 mg
Optional neurotropic or nootropic fungal or plant extracts, or other natural products, or purified compounds thereof	Fomitopsis, Ganoderma, Grifola, Hericium, Hypsizygus, Inonotus, Isaria, Panaeolus, Phellinus, Phellinus, Piptoporus, Pleurotus, Polyporus or Trametes species or combinations thereof; Bacopa monnien, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum onites, Rosmarinus officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis, Psychotria viridis, inter alia	10 µg to 500 mg
Optional MAO inhibitor compounds	β-carbolines (e.g., harmane, harmine, nor harmine, periolyrine, harmol, cordysinin, inter alia)	10 ng to 10 mg
Optional adversive	Niacin, capsaicin, ipecac, apomorphine, bittering agents (e.g., denatonium benzoate) inter alia	10 μg to 200 mg
Optional pharmaceutical excipients	Fillers, binders, diluents, vehicles, lubricants, preservatives, flavors, colors, etc.	quantum sufficiet

Title "TRYPTAMINE COMPOSITIONS FOR ENHANCING NEURITE OUTGROWTH"

From claim 18 "The composition of claim 1, wherein the composition is effective to treat, alleviate, prevent or ameliorate...neuronal injuries or physical neurodegeneration (e.g...neurotoxic viruses...)"

From **claim 33** "A method of **inducing neuronal growth** and neuronal lengthening comprising administering an effective amount of one or more norpsilocin, norbaeocystin, baeocystin, or psilocybin combined with one or more erinacines or hericenones in pure form, extracts, or isolates from *Hericium* mushroom species, or combinations thereof and one or more pharmaceutically acceptable excipients to the subject."

From page 12 "In an embodiment, to ameliorating the disease or disorder (I.e., slowing or arresting or reducing the development of the disease or at least one of the clinical symptoms thereof)."

2. NUZZO (2021) "Post-Acute COVID-19 Neurological Syndrome: A New Medical Challenge" Journal of Clinical Medicine. Vol 10(9):1947.

From abstract "Neurological complications after severe COVID-19 infection might include delirium, brain inflammation, stroke, and nerve damage."

From page 4 "Furthermore, high levels of inflammation (cytokine storm) and BBB lesions in the brain are very likely to have long-term consequences on neurodegeneration."

9. ICEERS (2020) "Ayahuasca: Basic Info" Retrieved 6 August 2020. URL: https://web.archive.org/web/20200806102318/https://www.iceers.org/ayahuasca-basic-info/

From Beta-carbolines section, paragraph 3 "Analysis of ayahuasca brews have found harmine at quantities of about 158mg per dose, which would be equivalent to a dose of about 2mg/kg for a person weighing around 70kg. This amount is sufficient to cause the inhibitory effects of monoamine oxidase, which allows the **DMT** to be orally effective. In their bioassays, Jonathan Ott and other authors found that the minimum amount of harmine needed to induce the oral activity of **DMT was about 70mg to 150mg**, or around 1mg/kg to 2mg/kg."

10. GOULART DA SILVA (2021) "Anti-inflammatory activity of ayahuasca: therapeutical implications in neurological and psychiatric diseases" Behavioural Brain Research. Vol.400:1-8.

From page 1 "Thus, the current scientific evidence, mainly in humans, make the ayahuasca a pioneer between classic psychedelics, because it has pointed its anti-inflammatory activity."

3. SZABO (2014) "Psychedelic N,N-Dimethyltryptamine and 5-Methoxy-N,N-Dimethyltryptamine Modulate Innate and Adaptive Inflammatory Responses through the Sigma-1 Receptor of Human Monocyte-Derived Dendritic Cells" PLOS One. Vol 9(8):1-12.

From page 11 "We conclude that the function of dimethyltryptamines may extend the central nervous system activity and may play a more universal role in immune regulation. Here we demonstrate for the first time that NN-DMT and 5-MeO-DMT have potent immunomodulatory effects on the functional activities of human dendritic cells operating through the sigma-1 receptor. We also show that DMT-mediated sigmar-1 activation can interfere with both innate and adaptive immune responses. On the one hand, it strongly decreases the levels of pro-inflammatory cytokines and

	chemokines such as IL-1 β , IL-6, TNF α and IL8, while upregulates the production of the anti-inflammatory cytokine IL-10."		
39. The method of claim 38, wherein neuroregeneration comprises neurite	1. Priority Document of Int'l "TRYPTAMINE COMPOSI OUTGROWTH" (Priority da	TIONS FOR ENHANCING	
outgrowth.	From page 26		
	Table 1. Exemplary neurotropic or		
	esters, or salts thereof, or extracts from fungi or plants; In addition to or alternatively, phenethylamines, amphetamines; derivatives thereof, extracts from fundi or	poin, baeocystin, norbaeocystin, norpsilocin, 4-hydroxytryptamine, nethyltryptamine, N-methyltryptamine, a; In addition or alternatively, 3,4,5-ixyphenethylamine (Mescaline), 2,4-xy-amphetamine (2,4-DMA), 3,4-xy-amphetamine (3,4-DMA), 3,4-nedioxy-amphetamine (MDA), 3-y-4,5-methylendioxy-amphetamine (inter alia	10 ng to 10 mg
	Optional secondary cannabing neurotrophic fungal or plant extracts, or purified compounds thereof dimethyl Antrodia	ies, hericenones, cannabidiol, chromene, cannabigerol, Δ8- irocannabinol, Δ9- irocannabinol, cannabinol, lirocannabivarin, cannabidiol-2',6'- I ether, inter alia a, Beauveria, Copelandia, Cordyceps, lisis, Ganoderma, Grifola, Hericium,	10 ng to 500 mg
	Optional neurotropic or nootropic fungal or plant extracts, or other natural products, or purified compounds thereof Phellinu Polyport combina Centella officinale cuspidal onites, feriocally.	gus, Inonotus, Isaria, Panaeolus, s, Phellinus, Piptoporus, Pleurotus, us or Trametes species or ations thereof, Bacopa monnien, a asiatica, Gingko biloba, Zingiber e, Ocimum sanctum, Polygonum tum, Origanum vulgare, Origanum Rosmarinus officinalis, Rosmarinus x, Curcuma longa, Camellia sinensis, ria viridis, inter alia	10 μg to 500 mg
	Optional MAO inhibitor compounds β-carbol harmine alia)	lines (e.g., harmane, harmine, nor e, perlolyrine, harmol, cordysinin, inter	10 ng to 10 mg
	Optional adversive bittering inter alia	capsaicin, ipecac, apomorphine, agents (e.g., denatonium benzoate) a binders, diluents, vehicles, lubricants,	10 μg to 200 mg
		atives, flavors, colors, etc.	quantum sufficiet
	Title "TRYPTAMINE COMNEURITE OUTGROWTH From claim 18 "The composeffective to treat, alleviate, physical neurodegeneration	I" sition of claim 1, wherein the prevent or amelioratenet	e composition is ıronal injuries or
	From claim 33 "A method or lengthening comprising adm norpsilocin, norbaeocystin, be more erinacines or hericenom <i>Hericium</i> mushroom species pharmaceutically acceptable	inistering an effective amount baeocystin, or psilocybin com- nes in pure form, extracts, or , or combinations thereof and	nt of one or more abined with one or isolates from

	From page 12 "In an embodiment, to ameliorating the disease or disorder (I.e., slowing or arresting or reducing the development of the disease or at least one of the clinical symptoms thereof)."
	2. NUZZO (2021) "Post-Acute COVID-19 Neurological Syndrome: A New Medical Challenge" Journal of Clinical Medicine. Vol 10(9):1947.
	From abstract "Neurological complications after severe COVID-19 infection might include delirium, brain inflammation, stroke, and nerve damage."
	From page 4 "Furthermore, high levels of inflammation (cytokine storm) and BBB lesions in the brain are very likely to have long-term consequences on neurodegeneration."
40. (canceled)	
41. (canceled)	
42. (canceled)	
43. (canceled)	
44. (canceled)	
45. (canceled)	
46. (canceled)	
47. (canceled)	
48. (canceled)	
49. (canceled)	
50. (canceled)	
51. The method of claim 15, wherein the infectious disease or condition causes	1. Priority Document of Int'l Pat. App. Pub. No. WO/2021/101926 "TRYPTAMINE COMPOSITIONS FOR ENHANCING NEURITE OUTGROWTH" (Priority date 9 April 2020)
neurological damage in	From page 26
the subject and the	
method results in treatment of the	
neurological damage.	
neurorogicai damage.	

Component	Example	Dosage
Tryptamine neurotrophics, tryptamine derivatives, esters, or salts thereof, or extracts from fungi or plants; In addition to or alternatively, phenethylamines, amphetamines; derivatives thereof, extracts from fungi or plants	Psilocybin, baeocystin, norbaeocystin, psilocin norpsilocin, 4-hydroxytryptamine, N,N-dimethyltryptamine, N-methyltryptamine, inter alia; In addition or alternatively, 3,4,5-trimethoxyphenethylamine (Mescaline), 2,4-dimethoxy-amphetamine (2,4-DMA), 3,4-dimethoxy-amphetamine (3,4-DMA), 3,4-methylenedioxy-amphetamine (MDA), 3-methoxy-4,5-methylendioxy-amphetamine (MMDA), inter alia	10 ng to 10 mg
Optional secondary neurotrophic fungal or plant extracts, or purified compounds thereof	Erinacines, hericenones, cannabidiol, cannabichromene, cannabigerol, Δ8-tetrahydrocannabinol, Δ9-tetrahydrocannabinol, cannabinol, tetrahydrocannabinol, cannabidiol-2',6'-dimethyl ether, inter alia Antrodia, Beauveria, Copelandia, Cordyceps	10 ng to 500 mg
Optional neurotropic or nootropic fungal or plant extracts, or other natural products, or purified compounds thereof	Fomitopsis, Ganoderma, Grifola, Hericium, Hypsizygus, Inonotus, Isana, Panaeoius, Phellinus, Phellinus, Piptoporus, Pleurotus, Polyporus or Trametes species or combinations thereof; Bacopa monnien, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum onites, Rosmarinus officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis, Psychotria viridis, inter alia	10 µg to 500 mg
Optional MAO inhibitor compounds	β-carbolines (e.g., harmane, harmine, nor harmine, periolyrine, harmol, cordysinin, inter alia)	10 ng to 10 mg
Optional adversive	Niacin, capsaicin, ipecac, apomorphine, bittering agents (e.g., denatonium benzoate) inter alia	10 µg to 200 mg
Optional pharmaceutical excipients	Fillers, binders, diluents, vehicles, lubricants, preservatives, flavors, colors, etc.	quantum sufficie

From claim 18 "The composition of claim 1, wherein the composition is effective to treat, alleviate, prevent or ameliorate...neuronal injuries or physical neurodegeneration (e.g....neurotoxic viruses...)"

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Electronic Acknowledgement Receipt		
EFS ID:	47634071	
Application Number:	17738925	
International Application Number:		
Confirmation Number:	3736	
Title of Invention:	FUNGAL COMPOUND COMPOSITIONS AND METHODS FOR MODULATING INFLAMMATION	
First Named Inventor/Applicant Name:	Paul E. STAMETS	
Customer Number:	23409	
Filer:	Shahin Shams	
Filer Authorized By:		
Attorney Docket Number:	215261-9011-US02	
Receipt Date:	06-MAR-2023	
Filing Date:	06-MAY-2022	
Time Stamp:	14:07:33	
Application Type:		
Payment information:	1	

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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 a 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.

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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

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Electronic Acknowledgement Receipt				
EFS ID:	47634443			
Application Number:	17738925			
International Application Number:				
Confirmation Number:	3736			
Title of Invention:	FUNGAL COMPOUND COMPOSITIONS AND METHODS FOR MODULATING INFLAMMATION			
First Named Inventor/Applicant Name:	Paul E. STAMETS			
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Receipt Date:	06-MAR-2023			
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Time Stamp:	14:14:07			
Application Type:				

Payment information:

Submitted with Payment	yes
Payment Type	CARD
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