detoxication via liver, flora and

lymph to improve skin

sugar balancing

actions







Mushroom Medicine Details

Variables that influence the outcomes

- What part of the mushroom is it? MUSHROOM
- What life stage?
- Fruiting Body or Mycelium?
- If mycelium, what kind...









What has always classically been used: the ethnobotany, TCM and traditional use/ foundation we build on. Most research research is on the fruiting bodies; more now on

mvcelium Active, "full spectrum" More active constituents- beta-glucans, antioxidants, triterpenes, minerals (phosphorus, copper, zinc, potassium); vitamins (C, D, beta-carotene, Bs). * one known

exception is erinacine A in lions mane mycelium [hericenones C &D in fruiting body]

Mycelium:

Typically grown on grain, oats, corn etc Less investment, faster & easier grow in masses, faster turnover. Typically less active compounds- up to 50% less beta-glucans than fruiting bodies 50-80% starch from the growing substrate-I think of it as a fermented food such as tempeh- still has nutritional value but not as much of the strong medicinal actions

Pure mycelium extracts grown in liquid fermentation tanks to get mycelium without growth substrate Potential for different beneficial components, enzymes higher etc,

we just do not know all those constituents yet. More and m ne. Likely a great m s too, but di



Mushroom Medicine Details

Variables that influence the outcomes

- 3. How is it prepared? What end product is being ingested?
 - Products prepared from fresh mushrooms vs. dry mushrooms · Eating fresh- raw vs. cooked. i.e. raw powder will have poor absorption
 - Dried raw powder vs concentrates and extracted powders.
 - Alcohol extraction, Glycerin
 - Hot water extraction, teas, br
 - **Double Extraction**

4. Standardization:

Whole mushrooms or isolated constituents?

There are so many compounds we do not even know yet in fungi, synergy of whole mushroom medicine is important to preserve best outcomes. Can test to see % desired constituents, but should not just use isolated constituents

5. Advanced Extraction methods:

Are the smaller pieces of heteroglucans as active as we hope? Alcohol, heat, Hcl all reduce the size of the initial compounds, potentially making them less active the more they are broken down by these methods. Less is more

6. Goals, dose, duration, scope, population targeted.

Mushroom Extraction



Cordyceps **Lions Mane Turkey** Tail Shiitake Maitake

Alcohol Soluble Triterpenes

Reishi- ganoderic acids Chaga- inotodiol

When looking for triterpene rich extracts, mushrooms need be extracted in alcohol, so DUAL extracts are desired for beta glucan immune actions and triterpenes.

Others, even if done via the dual extract method, the beta glucan content can be deceased with no need bc no (known) active triterpenes.











Generalized Benefits of Medicinal Mushrooms mostly via the b-glucans and antioxidants which are present in all

- Heart disease- balancing lipids, inflammation and oxidation
- Immune system balance
- Acute or chronic, prevention, palliative or targeted immune and cancer therapies
- Liver support- detoxification support, tissue healing, antiviral (hepatitis), can help the burden of many medications on the liver
- Digestive health & healing inflamed digestive tissues
- Skin health- yin/moisture building, antioxidant, detoxication/liver/digestion
- Many have anti-diabetic, anti-obesity and blood sugar balancing actions too



Cook Your Mushrooms!



Heat, water, salt, fat etc all help to break down the chitin, to exposes active molecules

ALWAYS cook your mushrooms for better absorption of active constituents and nutrients.

Tastes better too! Uncooked more likely to have issues with contamination and some causes dermatitis, i.e.

But if the health and taste benefits of cooked aren't enough for you...

Shiitake flagellate Dermatitis Rare skin eruption resembles whiplash marks

- resemples whiplash marks occurs after consumption of raw shiitake Reaction to lentinan, a thermolabil polysaccharide which decomposes
- upon heating linearly arranged erythematous,
- pruritic papules on trunk, limbs Usually self-limited, resolving with 10 days of onset.





COOKING MUSHROOMS QUICK TIPS

IF YOU CAN DO NOT WASH, WIPE WITH WET TOWEL OR BRUSH OFF DIRT WITH FINGERS, WATER MAKES THEM DAMP AND HAVE TO COOK FOR LONGER

HIGH HEAT CAST IRON, SALT, LET THEM SWEAT OUT THE MOISTURE TO AVOID CHEWY TEXTURE PEOPLE DON'T LIKE.

THEN ADD YOUR GARLIC OR OLIVE OIL, ONION OR GARLIC ETC

CAN ALSO MARINATE AND BAKE, GRILL OR SAUTEE

LIONS MANE "CRAB" CAKES

AWESOME IN SOUPS







BAKING! LIONS MANE- MORE MILD AND TASTY, GOES WELL IN OATS OR BAKED GOODS , REISHI PAIRS WELL WITH CHOCOLATE - BROWNIES, BANANA BREAD, PANCAKES etc

TIMING OF THE DIFFERENT MUSHROOMS- oysters and softies add to the pan towards the end

Shred with your fingers for nice texture- lions mane. maitake, oysters, chicken of the woods etc

Pizza, mushroom veggie burgers, grilled cheeses -esp over a campfire with freshly foraged finds!

ming Lentinula edodes (Shiitake) Mushrooms Daily Improves Human Immunity: A mized Dietary Intervention in Healthy Young Adults. atlauth'. Ben CA¹, Estens LA², Stens CA², Scatter SA², Crostens MO³, Laboare-Herse D¹, Bennet SA⁵,

ns are widely cited for their medicinal qualities, yet very few human intervention studies have been

The aim of this study was to determine whether consumption of whole, dried Lentinula ed Secondary objectives includ A (slgA) in saliva, and C-re

naies and females, aged 21-41 years, participated in a 4-week parallel group stu ject had blood drawn before and after 4 weeks of daily L. edodes consumption. 5 mononuclear cells were cultured in autologous serum for 24 hours or 6 days, sta

sed ex vivo proliferation of v6-T (60% more, p < 0.0001) and NK-T (2-fold more, p camp is, each or 4 weeks resulted in constrained as werp protection of the 1 goor more, the VUX011 periods in the 1 goor and the second or 4 weeks resulted in constrained as years and werp and the second as the second or 4 good or 4 go na C.C.

BOR: Regular L. edodes consumption resulted in improved immunity, as seen by improved cell profileration and activation and splay production. The changes observed in cytokine and servin CRP levels suggest that these improvements occurred under that were issuit immunity than those the canob advect consumption.





52 healthy adults 10 g of mushrooms daily for 4 weeks. = improved immune cell counts **Reduced CRP, inflammation**



Mushroom Synergy with



Anandamide: the "bliss" neurotransmitter, influences stress response and pain regulation. It binds to cannabinoid and opiate receptors. In studies where it is blocked from binding in the CNS, we see a worsened stress response. It may also bind to some Vanilloid Receptors, potentially mitigating conditioned fear responses and the lasting negative effects to prevent emotionally crippling long term, ptsd reactions. Originates from the sanskrit "ananda," which roughly translates to "bliss" or "joy".

5HT Serotonin: major hormone that stabilizes our mood, feelings of well-being, and happiness. Serotonin has impacts your entire body, nerve communication, digestive action (peristalsis), eating, sleeping and more. Major target of most antidepressants, SSRIs = Selective Serotonin Reuptake Inhibitors- Lexapro, Prozac, Zoloft just to name a few.

Iryptophan: Building block of serotonin and melatonin, influencing mood, attention, cognition, memory, behavior and sleep-wake cycle Magnesium: essential mineral super-relaxor of muscles and mind. Cofactor and building block of countless reactions in the body but also wonderful for physically relaxing muscles spasms and mentally relaxing to help with sleep, constipation and stress response. Flavonoids, Polyphenols, Tannins & Catechins: Antioxidants supreme

PEA: is an alkaloid that acts as a neuromodulator. **Beta-phenethylamine** is pharmacologically similar to

amphetamine, with a similar but much more mild and shorter acting psychoactive effect. PEA can have an antidepressant action [cool human trial PMID: 9081552], pain moduling actions and is known to be one of many neurotransmitters influencing feelings of love, attachment and connection. PEA also initiates the release of betaendorphins, endogenous opioid neuropeptides related to pleasure. PEA is high in those who consistently run and do moderate exercise, showing its relation to the classic "runners high". On the other side, PEA tends to be lower in those who are depressed.

Manganese plays a role in balancing cholesterol and glucose and influences heart, brain, blood and bone health. Iron: super source for our vegetarians! One of the highest plant sources, almost double the amount per 100g of spinach (3.6mg) to cacao (7.3mg).

Additional Minerals & trace minerals:, calcium, iron, zinc, copper, potassium, chromium and olybdenum too. Also protein, lipids (fats), and small amounts of carbohydrates.





ma cacad



Triple helix polysaccharides (beta-D glucans). Found in mushrooms, yeast, algae, cereal gr and bacteria. Most medicinal mushrooms have [-], 3], 6-glucans (bacteria often 1, 4), AB urgai and yeasts have triple helix polycacharides (beta-D glucans) in their cell walls, contributing to structural support, but-not all beta-glucans are equally effective at tribunations have accessible interval. ing an appropriate im

Depends on the core chain length, complexity of branching, molecular structure, degrees of bran and solubility, differences in molecular weight and solution conformation, and methods of prod-entraction and purification. It is suggested that the more complex, the more active immunomod and anti-cancer effects.

Heat breaks down chitin, exposes active molecules = cook your mushrooms to get the medicine!

TT. T. T. TT. TT. TT.

Large molecular weight fungal compounds bind to gut receptors to initiate complex immun activation via dectin, toll-like receptors and others. Evidence suggests that the activity of these polysaccharides is dependent on their size, with high molecular weight (100 000–200 000) fractions being most active, while fractions from the same source with molecular weights of 500–10 000 show no activity. The fact that there are polyaccharides with different chemical structures, but all of which have immunomodulating activity, suggests that the immune response is in part non-specific, determined by size rather than by chemical structure.





Bioactive sesquiterpenes produced by fungl: are useful for humans as well?

Humulene





catechuic acid= in

protocates and a minimum moust processing, spinnarysic, cardioprotectant, anticoagulant and chemopreventive propertie A strong positive correlation was observed between antiaudiant activity of mushrooms and the amount of phenolic compounds









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Auricularia polytricha

Potential use in Alzheimer's and amyloid plaque formation, helps stimulate the enzymes that cleave or breaks down the plaques

Heat-stable components of wood ear mushroom, inhibit in vitro activity of beta secretase (BACE1). olytricha (higher Basidiomycetes). lennett L¹, Sheean P. Zebere

CORDYCEPS

and L. e

More behind its common name: Himalayan Viagra.

As the story goes, local herders observed that the yak, goat and sheep

production, reproductive capacity and livestock vitality. They then felt

Word of mouth spread fast about this potent vigor and vitality

enhancing mushroom, especially because of its reproductive and aphrodisiac actions. It became an honorable gift to give to

relatives to promote the family's vitality, used as a wedding

gift etc. Traditionally, they would collect the aerial fruiting

themselves. [animal trials are not just a "modern" science marvel].

who ate C. Sinensis while forest grazing became very strong and stout. They then began adding the powdered fungus to their jaggery

feed(cane juice and often date or palm sap) to increase milk

confident in its safety and efficacy and began ingesting it

body/stroma and dried it in the sunlight.

People often speculate or laugh while asking, who was the first one who figured out that herb worked for this _____problem? One of the key ways- is through our animal teachers, by close

observations of nature's patterns and super tuned in animal stewards.



Promoting, Anti-tumor,

Anti-inflammatory, Antioxidant,

Caterpillar fungus **Himalayan Viagra**

Lung, Immune, Adrenal affinity



Classic Adapotogen: Improves energy, stamina, physical performance and quality of life

Traditional Chinese Uses: Cough, chronic bronchitis, respiratory dysfunctions, kidney disorders, frequent nocturia, male sexual dysfunction, liver disease, dizziness, weakness, waisting and opium addiction

Immunostimulating polysaccharide galactomannins, cordycepic acid. Amino Acids, Fatty Acids, Polyamines, Ecdysterones, Adenosine, B-Vitamins, polysaccharides, ophiocordin (an antibiotic compound), cordycepin, cordypyridones, nucleosides, bioxanthracenes, sterols, alkenoic acids, and exo-polymers.



not really affordably cultivated to this day. In the 1980s, scientists made Cordyceps anamorphs, mycelium growth that are unable to produce a mushroom fruiting body.

Using liquid fermentation, these anamorphs were grown to create mass amounts of pure mycelium (this method uses a liquid culture mycelium or liquid fermentation nutrients which are then removed, leaving the pure mycelium). These anamorphs were studied extensively and found to produce similar results to the wild Cordyceps sinensis - > now known as Cordyceps Cs-4. Many clinical trials in China, the Chinese government approved its use in TCM hospitals and is recognized as a safe natural product drug. If a Cordyceps supplement is claiming to be Cordyceps sinensis and it is made in China, it is almost always Cordyceps Cs-4.



Cordyceps species that can be commercially cultivated at scale to produce a mushroom (fruiting body); becoming quite popular. Tests on par with sinensis Made from the mushroom fruit body= higher levels of the important beta-glucans.



Cordyceps sinensis Almost all of the supplements are not true cordyceps sinensis bc of its extremely high price-wild cordyceps costs up to \$20,000 per kilogram; rarely even sold in North America.

⊕ Cordvceps Cs-4. Cordvceps sinensis is difficult to grow in the lab or on different substrates, still





Cordyceps sinensis CS4 liquid grow tanks





water, leave for 1 hour and drink in the

 Mixed with ginseng for cancers
 Prolonged, continuous use by local folk healers/traditional healers for the treatment of 21 ailments, including cancer, bronchial asthma, bronchitis, TB, diabetes, cough and cold, erectile dysfunction, BHP, jaundice,

dr lindsay chimileski

morning and evening as a tonic (Bhutia communities)

alcoholic hepatitis, etc., were r PMID: 21731381

Cordyceps sinensis Adaptogen, Energy

Hepatoprotective



Different species of cordyceps v to make a zombie ant tract is the tractar semineds of h

grain





The inhibitory mechanism of Cordyceps sinensis on ed senescence in human bronchial epit

, ROS/PI3K/AKT in TOR signaling pe





(cigarette smoke treatment

C. sinensis can decrease CSE-induced cellular senescence.

Activation of ROS/PI3K/AKT/mTOR signaling pathway was enhanced by CSE treatment, and decreased when C. sinensis was added.

Blocking ROS/PI3K/AKT/mTOR signaling pathway can attenuate CSE-induced cellular senescence.

Conclusion

CSE can induce cellular senescence in human bronchial epithelial cells, and ROS/PI3K/AKT/mTOR signaling pathway may play an important role in this process. C. sinensis can inhibit the CSEinduced senescence.



ment.Med. 2010 May: 16(5): 585-590

Effect of Cs-4[®] (Cordyceps sinensis) on Exercise Perfor Older Subjects: A Double-Blind, Placebo-Controlled Trial ce in Healthy Steve Chen, M.D.,¹ Zhaoone Li, M.D., Ph.D.,¹ Baberi Kroshmal, M.D.,¹ Marion Ab B.S.,¹ and <u>Christopher B. Coccee</u>, M.D.¹⁹²

Abstract

effect of Cs-4[®] (Conducept

tion with Cs-4 (Corress in health





Go to: 🖂

20 adults, double blind placebo controlled 333mg TID or placebo for 12 weeks. Improved exercise performance & wellness



Cordyceps & Ischemic Brain Injury

WIB801C, the standardized extract of Cordyceps militaris used to treat rats that had had induced ischemic injuries (no blood flow to certain areas of the brain)

WIB801C significantly decreased migration of cultured microglia/macrophages. This anti-chemotactic activity of WIB-801C was not mediated via adenosine A3 receptors, although cordycepin, the major ingredient of WIB801C, is known as an adenosine receptor agonist.

Post-ischemic treatment with WIB801C significantly reduced the infiltration of ED-1-and MPO-positive inflammatory cells into ischemic lesions in tMCAO rats.

WIB801C-treated rats exhibited significantly decreased infarct volume and cerebral edema, less white matter and blood-brain barrier damages, and improved neurological deficits.

WIB801C also improved survival rates over 34 days after ischemia onset.

A significant reduction in infarct volume and neurobehavioral deficits by WIB801C was also observed in rats subjected to pMCAO.

Conclusions: In summary, post-ischemic treatment of WIB801C reduced infiltration of inflammatory cells into ischemic lesions via inhibition of chemotaxis, which confers long-lasting histological and neurological protection in ischemic brain. WIB801C may be a promising antiischemic drug candidate with clinically relevant therapeutic time window and safety.



Post-ischemic treatment of WIB801C, standardized Cordyceps extract, reduces cerebral ischemic injury via inhibition of inflammatory cell migration

Ganoderma lucidum



dr lindsay

REISHI, Ling Zhi 🦔 Mushroom of spiritual potency

adaptogen, immune stimulant, antioxidant

ΩTCM: Tonifies Jing, Qi and Shen. calmness, centeredness, balance, inner awareness and inner strength. $\pounds Asia as a tonic herb consumed for the attainment of$ radiant health, longevity and spiritual attainment.

 \Im In the middle ages- used by *mountain hermits, monks, Taoist* adepts and spiritual seekers throughout Asia to help calm the mind, ease tension, strengthen the nerves, strengthen memory, sharpen concentration, improve focus, build will power and, as a result, help build wisdom.

Called the "Mushroom of Spiritual Potency" by these seekers.

 \Im Used to improve meditative practices and to protect the body, mind and spirit so that the adept could attain both a long and healthy life.



Ganoderma lucidum REISHI, Ling Zhi

adaptogen, immune stimulant, antioxidant Mushroom of spiritual potency

AMPHOTERIC = *BALANCING*

Mild tranquilizing central nervous system effect sleep. Stress Response Adaptogen

Immune potentiator "modulator, helps regulate the immune system Polysaccharides/Betaglucans strengthening overall immune functions **Ganoderic** acids

inhibit histamine release, improve oxygen utilization,

improve liver functions,

potent antioxidant free-radical scavengers.

VAST cancer research: breast, prostate, leukemia, liver, lung and more

Cardiovascular, Cholesterol balance, Blood pressure Stimulates interferon and interleukins I and II, potent natural immune-boost.



The Auspicious Fungus

Finding it was a blessing Great luck/ very special / a gift The spirits of the mountain favoring you

Rituals & astrology to help find it Sage naturalist would go into the mountains **Carrying specific talismans**



A white chicken or a white dog to gain favor of the mountain spirits

Reishi was such a sacred finding, that the mountain spirits would guard it. If you did not pay honor to them, they would not show you the reishi-You could walk right by it and not see it.

Only ones who could afford it were the emperors and wealthy Because it was so special, it is one of the few TCM herbs that was used on its own in formulas, versus the big blends that are common in their formulary.

> In the "Superior Medicinals" in the TCM texts= safe to take daily with no ill effects and helps you live a better life





Reishi "lightens the spirit" Daoist immortals said it "makes you fly" **Encourages lucid dreaming and spirit travel**



64 women. 6 g ganoderma vs ceratonia siliqua for 6 weeks Fitness tests to evaluate functional capacity In the reishi group alone: Improved aerobic endurance, lower body flexibility and velocity Useful to help these patients move their bodies, to help break the pain/stagnation cycle, improve mood and quality of life





Tender Points of Fibromyalgia

> Int J Med Mushrooms, 2014;16(2):179-87. doi: 10.1615/intjmedmushr.v16.i2.80.

Inhibitory activity of Lingzhi or Reishi medicinal mushroom, Ganoderma lucidum (higher Basidiomycetes) on transformed cells by human papillomavirus

ez-Márquez ¹, Alfredo La Burgete-García ¹, Ismael León-Rivera ², Elizir Montiel-Arcos ³, Enrique García-Villa ⁴ Gariglio ⁴, Vicente Madrid-Marina V ¹, Raul N Ondarza-Vidaurreta ⁵ Affiliations + expand PMID: 24941039 DOI: 10.1615/intjmedmushr.v16.i2.80

Abstract

Abstract In this study, we investigated the effects of the aqueous extracts of Lingshi or Reishi medicinal mustroom, Ganderma lucidum, obtained from three localities (China; and Morelos and Michoacan, Mexico) on cervical cells transformed by human papilomavirus (HeLa and SHa) and C-334 cancer cells. The cells were plated in DML medium supplemented, and were incubated in the presence of different concentrations of G. Jucidum for 24 h. Cell proliferation was determined by MTT colorimetric asyst and vialibility by trypan blue assyst, hibibiny does was determined pt MTT colorimetric asyst and vialibility by trypan blue assyst, hibibiny does was determined pt MTT colorimetric asyst and vialibility by trypan blue assyst. Inibibiny does was determined by MTT colorimetric asyst and vialibility by trypan blue assyst. Inibibiny does was determined by the collisies produced inhibition in the proliferation of VPH transformed cells; they also induced apoptosis and cell cycle arrest in HeLa, SHA, and C-33A cancer cells. Therefore, it was found that aqueous extracts 0. Loidum obtained from three different locations produced inhibition cells and by have a potential therapeutic use for the prevention and treatment of this disease.





Inhibited proliferation of HPV infected cells and induced cell death to cancer cells

offed Trial > Int J Med

Control of oral human papillomavirus (HPV) by medicinal mushrooms, Trametes versicolor ar Ganoderma lucidum: a preliminary clinical trial

Chicken of the woods, Turkey Tails and Reishi on the clearance of oral human papillomavirus HPV serotypes 16 and 18 (the two most common HPV strains that lead to cases of genital cancer).

Among 472 patients who underwent oral swabs for gingivitis, 61 patients were positive for HPV16 or HPV18

Polymerase chain reaction (PCR) for HPV was performed at inclusion and after 2 months. The use of TV+GL for the clearance of oral HPV deserves further investigation.





Laetiporus sulphureus (LS) GROUP ONE: 20 patients (LS) clearance was equal to 5%



Trametes versicolor (TV), Ganoderma lucidum (GL) GROUP TWO: 41 patients (TV+GL) for 2 months. clearance was equal to 88% (P<0.001)



> Reade Cle Etp Res. 2005 Jul 2010 1128-06. doi: 10.1111/jule-21.2016. Etp. 2015 Jun 8. Neurometabolic Effect of Altaian Fungus Ganoderma lucidum (Reishi Mushroom) in Rats Under Moderate Alcohol Consumption

Under Moderate Alcohol Consumption
Olig Blweiter¹, Andry F Aulor¹, Anna S Dotaniko², Galo V Kotsevaya¹ Manya A Zolotya¹, Sudetta A Caterolasa¹, Senger V Okrev¹, Taryana N Goryachionskaya¹, Senger V Okrev¹, Skataya Kalananov^{1,3}, Skataya Kalananov^{1,3}, S

Affiliations + expand PMID: 26058418 DOI: 10.1111/Jacar.12758

The Reishi (R) suspension was produced as water extract from Altaian mushrooms. Sprague-Dawley male rats were separated into the following 3 experimental groups: Group A + R received R (6 days per week) starting 1 week before alcohol exposure, and during the next 3 weeks, they received both R and alcohol; group A received alcohol; and group C received water.

Group A received a known, and group C received water. At the end of experiment, we determined the metabolic profile using proton magnetic resonance spectroscopy ((1) KRS) of the bian contex and phosphorus magnetic resonance spectroscopy of the liver. Additionally, the blood cells were collected, and the serum biochemistry and liver histology were performed after euthanasia.

...Moderate alcohol consumption did not cause significant pathological changes in the livers of the experimental animals. However, 20 days of alcohol consumption significantly increased the number of binuclear hepatocytes compared to the control. This effect was mitigated in the rats that received the Reishi extract.

Conclusions: Regular administration of the Reishi suspension improved the energy supply to the brain cortex and decreased the prevalence of inhibitory neurotransmitters that are characteristic of alcohol consumption. The alcohol-induced increase in liver proliferation was significantly suppressed by regular administration of the G. lucidum water suspension.





Oxid Med Cell Longer, 2020 Jan 28;2020;9894037. doi: 10.1155/2020/98940 offection 2020.

Ganoderma lucidum Triterpenoids (GLTs) Reduce Neuronal Apoptosis via Inhibition of ROCK Signal Pathway in APP/PS1 Transgenic Alzheimer's Disease Mice

Nanhui Yu ^{1, 2}, Yongpan Huang ³, Yu Jiang ^{3, 2}, Lianhong Zou ^{3, 2}, Xiehong Liu ^{1, 2} Sulai Liu ^{3, 4, 8}, Fang Chen ^{5, 2}, Jun Liuo ⁶, Yimin Zhu ⁷ Affiliations. + expand

Affiliations + expand PMID: 32089787 PMCDD: PMC7008260 DOI: 10.1165/2020/9894037 Free PMC article

Abstract

Materian's Galassa (JAD) is the most common cause of dementia among service citizen. Genodema disconst histoprecisio (CLT) have nutrificional habitabili and habitabili a





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> Zhongguo Yi Xue Ke Xue Yuan Xue Bao. 2017 Aug 20;38(4):552-561. doi: 10.38815.ison.1000-503X.2017.04.018

Pathological Changes in APP/PS-1 Transgenic Mouse Models of Alzheimer's Disease Treated with Ganoderma Lucidum Preparation

Chuan Gin 1, Shan-Glu Wu 2, Bao-Sheng Chen 3, Xiao-Xian Wu 1, Kun-Yao Qu 2, Jun-Min L Gul-Jang Zhang A, Yan-Feng Xu 1, Shuril Shu 2, Lihua Son 1, Yan-Yong Li 1, Haa Zhu 1, Lan Huang 1, Chun-Mei Ma 1, Yui-Haan Xu 3, Yun-Lin Han 1, Yao-Zeng Lu 1

Affiliations + expand PMID: 28877835 DDE 10.58816 ison 1000-501

Abstract in English, Chinese

Objection Ta explore the effectory of generative vicinity representation Line 2016 in training, AMPE-Training, AMPE-Training,

cells lists occurred in AD model mice than the in EUA and L2 M groups[17:64,80,70:0579-04.80,70-001]. The L2 H and L2 M groups had more new results team cells growing to its cellshold and the lact stand L2 M groups had more new results team L2 H and L2 M group were integrated to coldar methods are instructed and the molecoded in it the cytoplanum/deplantic relicious/coldar, instructed had more and and an entities of the more and the cytoplanum method stand the mole and the cytoplanum method stand the cytoplanum method stand the molecoded in its more standard to the cytoplanum method standard the cytoplanum method stand the molecoded in the cytoplanum method standard to the cytoplanum method standard standard the cytoplanum method standard s

complete The microgial cell showed no abnormality, ho toxicity appeared in the pathological aspectment of incident traded with apparents lucidam preparation.conclusion: The ganoteme lucidam preparation can distolve and decline or dismiss the senile plaques and neurofibrillar tangles in the brain of AD mice and also reduce the amyloid angiopathy.





REISHI Research: Brain





Corbinat Mellel 227 Art 16431 385 383 art 1538460454330036 Water Extract of Mixed Mushroom Mycelia Grown on a Solid Barley Medium Is Protective against Experimental Focal Cerebral Ischemia

 $\label{eq:started} \begin{array}{c} \mathcal{A}(\mathsf{heur},\mathsf{heorg}^2,\mathsf{Sher}(\mathsf{He}(\mathsf{Rie}^3),\mathsf{M}(\mathsf{He}(\mathsf{Rie}^3,\mathsf{Heur}^2),\mathsf{cong}^2)\mathsf{hear}(\mathsf{Rie}^2,\mathsf{Heur}(\mathsf{heur}),\mathsf{man}) \\ \mathsf{Char}(\mathsf{ha}(\mathsf{Sherg}^2,\mathsf{A}(\mathsf{Heur}(\mathsf{heur}),\mathsf{A}(\mathsf{ha}(\mathsf{Char}^2),\mathsf{re})(\mathsf{Dark}(\mathsf{Heu}^2,\mathsf{heur}(\mathsf{heur}),\mathsf{heur}(\mathsf$

Helps prevent damage from and repairs areas of focal blood loss

Phellinus linteus (PL), Ganoderma lucidum (GL), and Inonotus obliquus (10), mixed mushroom mycelia (MMM)

Rats were subjected to a 90 min middle cerebral artery occlusion and reperfusion, after which a wMMM treatment resulted in significant dose-dependent improvements across a number of parameters.

Furthermore, measurements of intracellular ROS and levels of antioxidant enzymes revealed a **MMM-mediated ROS attenuation and antioxidant enzyme up regulation.**

We suggest that wMMM is neuroprotective against fCI through its **antiapoptotic and anti-oxidative effects**.



Maitake Mushroom (Grifola frondosa) Extract Induces A Possible Monotherapy and a Combination Therapy After Failure with First-Line Clomiphene Citrate

MD, PhD,¹ Kunihiko Tominaga, MD, DrPh, PhD,² Yoshaki S Hideo Anzai, BS, BS, RPh,⁴ and Ryo Matsuoka, MD, PhD⁵

Grifola frondosa Ganoderic Acid A Promotes Amyloid-B Clearance (In Maitake, hen of the woods, king of the mushrooms

Anti cancer & Immunomodulation: colon, skin, gastric, osteo, breast induce hematopoietic cell differentiation

protect those cells from the toxic effects exerted by chemotherapy Antibacterial

Hypoglycemic, blood sugar regulation, decreases insulin resistance

Anti-oxidant, lipid balancing, Skin benefits

Human dermal fibroblast experiments suggest that a G. frondosa extracellular polysaccharide (GF-EPS) can protect cells from hydroxyl radicalinduced DNA strand breaks, inhibit matrix metalloproteinase expression, stimulate fibroblasts proliferation, and prevent melanin formation. In addition, GF-MPS can stimulate the biosynthesis of collagen, and was shown to increase the mRNA level of type I collagen in human dermal fibroblasts

Healthy aging & Fertility tonic

Kina Ne^{11,1}, Kaolan Warg⁴, Jacheng Fang⁴, Vu Chang⁻¹, Ning Ning¹, Hao Gas Linkeng Huang¹⁺¹, Xiaoping Huang¹, Jeleng Zhan¹

Hepatoprotective

down-regulation of expression of cytochrome P450 and TNF-, cell cycle arrest, decrease of the activities of aspartate aminotransferase and alanine aminotransferase, and inhibition of superoxide anion oxygen species and RO







INSULIN RESISTANT

most common type affecting about 70% of women diagnosed with PCOS

High circulating insulin prevents ovulation and triggers the ovaries to create testosterone.

High insulin is not only a symptom, it is also a driver of the

condition itself. Causes high androgen levels and menstrual irregularities.

Although PCOS does affect the ovaries and ovulation, it's actually a full-body endocrine and metabolic disorder. Insulin resistance symptoms include:





Different Types of PCOS

THE JOURNAL OF ALTERNATIVE AND COMPLEMENTARY MEDICINE Volume 16, Number 12, 2010, pp. 1295–1299 © May Ann Labert, Inc.



Estrogen and progestin prevent eggs from being released from the ovaries Progestin causes thinning of the endometrium which preventsimplantation of a fertilized egg. Progestin thickens the mucusin t



ADRENAL PCOS

This type of PCOS is due to an **abnormal stress response** and affects around 10% of those diagnosed. Typically DHEA-S (another type of androgen from the adrenal glands) will be elevated alone, and high levels of testosterone and androstenedione are not seen.

frondosa Polysaccharides - A New Application to Cosmeceuticals

Received: May 30, 2006 Revised version: December 6, 2006 Accepted: December 9, 2006



Summary

mmary Grifola frondosa (maitake) is traditionally called 'the king of mushrooms' and 'the hen-the woods'. Both the fruiting bodies and the mycelium of maitake have been reported have antitument and antiviral activities, Recently, submerged callute processes have been eloped, with the intention of providing opportunities for increased ecconemic exploita-n of maitake. Commonly the aim of these processes is to produce extracellular polysets refers (EES) more obten grifter applications, particularly in the cos-tic industry. A wide variety of EFS with different molecular chain length and chemical positions are produced under different culture conditions. In this article, various bio-ical and physicochemical properties of the EFS of G. frondosa (GF-EFS) are described, in A view to applications in the area of functional consecurcticals. The GF-EFS, logether th GF mycelial extract (GF-MFS), showed anticoxidative activity, simulation of collager what with a cytotoxistity. These diverse functionalities suggest that both GF-EFS and "MPS can be promising connertic ingredients."

nds: cosmetic ingredients, exopolysaccharide, glucan, Grifola frondosa (maitake), hu-ermal fibroblasts, matrix metalloproteinase, skin aging







Birth control pills which suppress ovulation. Most women will resume ovulation and regular periods after discontinuing use. However, some women do not resume ovulating for months or even years afterward. Diagnosis typically occurs if your period becomes absent for 3 or more months after discontinuing birth control pills along with a normal insulin level and signs of PCOS like acne, a high LH to FSH ratio or possible polycystic ovaries seen on pelvic ultrasound.

> INFLAMMATORY PCOS Inflammation prevents ovulation, hormones become imbalanced and androgens are produced. Inflammation can be caused by stress, environmental toxins, or food sensitivities. Chronic inflammation can cause the ovaries to create excess testosterone and is a contributing factor for every type of PCOS. The best way to treat inflammatory PCOS is to correct

IBS or SIBO, joint pain, headaches, or chronic skin conditions such as

the underlying source of the inflammation.

psoriasis or eczema. Inflammatory foods: dairy, sugar, and gluten should be avoided or

minimized

Submerged Production and Characterization of Grifola

Sang Woo Kim¹, Hye Jin Hwang¹, Bum Chun Lee² and Jong Won Yun^{1*} artment of Biotechnology, Daegu University, Kyungsan, Kyungbuk 712-714, Korea ²R & D Center, Hanbul Cosmetics Co., 72-7, Umsung-Kun, Chungbuk 369-830, Korea







Microgli

e in vitro

Then those who did not ovulate with one of the monotherapies- got both



054 PMCID: PMC8107357 DOI: 10.3390/jmi2

Figure 5 Proposed mechanism of GAA-mediated AB clear

id A (GAA) on AB

Clomid group ==> 93.5% ovulation



Grifola & Memory

Oral administration of Grifola frondosa polysaccharides improves memory impairment in aged rats via antioxidant action

Methods and results: 20-month-old rats were gavaged with Grifola frondosa polysaccharides (GFP) for 8 weeks.

Morris Water Maze test revealed that GFP administration significantly improved memory impairment in aged rats.

GFP supply was also found to attenuate age-associated changes of brain histology and ultrastructure observed by light microscopy and transmission electron microscopy.

Moreover, the increase of total antioxidant capacity (T-AOC), glutathione peroxidase (GPx) activity, superoxide dismutase (SOD) activity, catalase (CAT) activity, as well as the decreased nitric oxide (NO) and malondialdehyde (MDA) levels, were consistent with the behavioral results.





Maitake for Memory & Learning

A Polysaccharide Extract from Maitake Culinary-

Medicinal Mushroom, Grifola frondosa (Agaricomycetes) Ameliorates Learning and Memory Function in Aluminum Chloride-Induced Amnesia in Mice

In the current study, we aimed to explore the beneficial effect of PGM on learning and memory function in alu the second secon

We found that PGM (5 and 10 mg/kg/d) significantly improved learning and memory function and attenuated histopathological abnormalities in the hippocampal DG region in the AICI3-treated mi

Furthermore, PGM treatment significantly enhanced the level of AMPAR and BDNF in the hippocampus while suppressing the tau protein hyperphosphorylation at the Ser396 site. These findings indicated that PGM could significantly attenuate the AICI3-induced amnesia through the synergistic action of its active component on tau pathology, AMPAR and BDNF signaling pathway.



D



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Antidepressant action

Continual effect all five days (no tolerance developed)

No hyperactive side effects

Able to ID the Dectin-1 receptor as a main mechanism because medications that blocked that action, blunted the anti-depressant effect

Results lasted at least 3 days after treatment stopped

Hericium erinaceus

 \pounds Used to treat nerve damage, neuropathy, wound healing

 \circledast Kills h.pylori, gram positive, gram negative bacteria

 \pounds Lipid balancing, hepatoprotective, counteracts ischemia, antiHTN

€ Ability to stimulate the production of nerve growth factor (NGF) ****

 \oplus Wound healing, skin, corneal and gastric ulcers, esophagus cancer

populations in the central and peripheral nervous system.

DEMENTIA, parkinson's, MS, NEUROPROTECTIVE

⊕ Vast cancer research





Protes & pilcrain from Maltake (PGM) is a strong immune regulator, and its receptor is called Dectm 1. Cumulative evidence suggests that AMPA receptors are important for the treatment of depression. Here, we report hal PGM treatment leads to a significant antidepressant effect in the laid suppression. Here, we report hal PGM treatment leads to a significant antidepressant effect in the laid suppression. Here, we report hal PGM treatment leads to a significant antidepressant effect in the laid suppression. Here, we report hal PGM treatment leads to a significant antidepressant effect in the laid suppression of the statement, this antidepressant effect remained. PGM treatment did not how a hypercative effect in the open field test. FCM significantly eventuates the periodic toric (PC) fields the did poly treatment. The Dectin-1 inhibitor Laminarin was able to block the antidepressant effect of PGM. At the synapses of PCA PCM treatment significantly user-plated the pGMIA (1584) call calls. Jaid Calls 24 CMA is antidepressant effects and the increase of pGIaA1(SA45) GMIAI Issued for 3 days after stopping treatment. The MAMPA region tations(ISC) 23240 was able to block the antidepressant effect of PCM. This study identified PCM as a novel antidepressant with clinical potential and a new antidepressant mechanism for regulating performal Decin-1/AMPA receptor signalling.



- 1. Think NERVES & BRAIN!
- 2. Stimulates nerve growth factor
- 3. Gentle hormone balancing action
- 4. Antiseptic and anti-inflam, useful to tx GI ulcers
- 5. Antioxidant rich
- 6. As always Beta glucans-immune, cancer, cholesterol etc
- 7. Brain-derived neurotrophic factor

Hardwoods: oak, maple, cherry, birch, aspen, alder, sycamore. Look up high on dead standing trees and underneath/ inside fallen ones







uterine weight gain. Longterm activation increases risk of breast and uterine cancers.

Hericium does not seem to act on these very much

a/B

Estrogen receptor beta (ERß) expressed in the brain, and tivation of ERß ameliorates menopausal depressive

So it may be safer for tx



Hericinones and erinacines- strongly stimulate the synthesis of Nerve Growth

Factor (NGF). NGF promotes neuron repair and renewal, including myelination.

-Lower than normal levels of NGF linked to early stages of Alzheimer's and dementia

-Plays an essential role in the differentiation and survival of several cell

NFG also plays a much wider role in maintaining homoeostasis in the body

Clinical trials dried fruiting body at a dose of 3-5g/day. Chinese Phamacopoeia Gastric ulcers: daily 500mg/kg, which equals up to 25-50g/day



aromatic Hericenones : fruiting body diterpenoid Erinacines : mycelium

Critically these molecules are are low molecular weight compounds believed to be able to pass through the blood-brain barrier.

phytoestrogens: including daidzein and genistein.



inaceus o ized Rats Estrogen deficiency during menopause causes a variety of neurological symptoms, including depression. The edible Lion's Mane mushroom, Hericium erinaceus (Bull.: Fr.) Pers medicinal mushroom that has the potential for a neuroprotective effect ameliorating neurological diseases, such as depression, anxiety, and

eliorating Effect of the Edible Mushroom ricium erinaceus on Depressive-Like Behavior in

ins phytoestrogen he ameliorating effect of ing daidzein and ge il symptoms is n ~nol extract of th on menupauso mpact of meth body on depressive-like behavior in pos usal model rats

Estrogen receptor alpha (ERc) activation causes body weight loss and uterine weight gain. (this was not seen with the Hericium). Body weight d with 17R.a

Anyousal depressive symptoms. Notably, dep X rats evaluated in forced swim test was reduc tot only E2 but also HE for 92 d. (this was seen



Ovarie





















creases the risk of breast and utering

d hy FRci act

Biomed Res. 2010 Aug:31(4):231-7

Author information

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Abstract

DMID: 20834180

Nagano M¹, Shimizu K, Kondo R, Hayashi C, Sato D, Kitagawa K, Ohnuki K

Department of Clinical Psychology, Kyoto Bunkyo University, Kyoto, Japan

Lions Mane- Antidepressant & Anti-Anxiety

Abstract Hericium erinanceus, a well known edible mushnoom, has numerous biological activities. Especially hericenones and erinacines isolated from its fruiling body stimulate nerve growth factor (NGF) synthesis, which expects H. erinaceus to have some effects on brain functions and autonomic nervous system. Herein, we investigated the clinical effects of H. erinaceus on menopause, depression, sleep quality and indefinite compaints, using the Kupperman Menopausal Index (KMI), the Center for Epidemiologic Studies Depression. Scale (CES-D), the Pittsburgh Sleep Quality Index (PSQI), and the Indefinite Complaints Index (ICI). Thirty females were randomly assigned to either the H. erinaceus (HE) group was significantly lower than the before. In two terms of the ICI, insentive" and "patipitato", each of the mean score of the HE group was significantly lower than the placebo group. "Concentration", "rintating" and "anxious" tended to be lower than the placebo group. The results what HE index has the norshift to northice demonstration and the results suppert and the activity and these means the spine to the state matching than the placebo group.

group many significant starts has the possibility to reduce depression and anxiety and these results suggest a different mechanism fro NGF-enhancing action of H. erinaceus.

30 women going through menopause

Reduction of depression and anxiety by 4 weeks Hericium erinaceus intake.

Funai Medicine - Chimelski

Lions Mane & Cognitive Health

A double-blind, parallel-group, placebo-controlled trial

50- to 80-year-old Japanese men and women diagnosed with mild

cognitive impairment using a cognitive function scale

30 subjects were randomized into two 15-person groups, one of which was given Yamabushitake and the other given a placebo

Yamabushitake group took four 250 mg tablets containing 96% of Yamabushitake dry powder three times a day for 16 weeks

After termination of the intake, the subjects were observed for the next 4 weeks.

At weeks 8, 12 and 16 of the trial, the Yamabushitake group

The Yamabushitake group's scores increased with the duration of intake, but at week 4 after the termination of the 16 weeks intake, the scores decreased significantly.

Laboratory tests showed no adverse effect of Yamabushitake. The results obtained in this study suggest that Yamabushitake is effective in improving mild cognitive impairment.

showed significantly increased scores on the cognitive function scale compared with the placebo group.



Background: Steep disruption is a major public health issue and may increase the risk of morality by tes folds: If an individual is steeping less than 6 h per night. Steep has chai dramatically during to the COVID-19 pandemic because COVID symptoms can lead to psychological discress including anxiety. Hericium ennaceus mycellum has been widely investigated in both the in wive studies and chinical trials for its neuroprotective functions because the mycellum contains hericenones and erinance, which symthesize the nerve growth factor and brain derived neuroprotective functions. The value shows show the internance Amrithee Hericium ennaceus mycellum an anotable BO TriAB/TBXANLGSX-3D pathways to induce an antidepressant-like effect. A large body of evidence indicates that erinance hericium citoria host projektion and suggests its neuroprotective function in both projeheal and central nervous systems. Thus, Hericium erinaceus mycellum may be a dual-function supplement for sleep disruption improveme while sustaining analoytic effects. late BDNF/

Method: To simulate the condition of sleep disruption, the mice were subjected to the tail suspension test (TST) for 15 min every day during the same period for nine consecutive days. Two different doss (75 and 150 mg/kg) of Hericium erinaxes: mycellum were administered orally 20 min prior to the TSTs before entering in the light period of 12:12 h. LD cycle. Millese pwake recording was recorded or 24 h using dectorcomplandgam and endermorgan. The elevande plus man and open field tests were conducted to mice the tableshow.

Results: Consecutive TSTs prior to the light period could cause significant sleep disturbance and anxiety behavior in the elevatedplus-maze experiments. Results showed that administration with Hericium erinaceus mycelium at 150 mg/kg ameliorated the rodent anxiety (p < 0.05) and reversed the TST-induced NREM sleep disturbance in the dark period.

Conclusion: This is the first in vivo study suggesting that Hericium erinaceus mycelium has a dual potential role for anxiety relief through improving sleep disruptions.







ligament transection (ACLT) indicated that

asymmetry and minimizes pain.

• H. erinaceus mycelium improves ACLT-induced weight-bearing

shows promise as a functional food in the treatment of OA.

Improving effects of the mushroom Yamabushitako (Hericium erinaceus) on mild cognitive impairment a double-blind placebo-controlled clinical trial



C













Chag Super Antioxidant Anti-inflammatory Anti-viral & Anti-parasitic Neuroprotective /Antineuro	degenerative	obliquus	CHAGA	Chaga ha any natu	as the highest ORAC score ever re ral food! 6.5 times more than Ac O.R.A.C. Oxygen Radical Absorbance Capacity Antioxidant Level	ecorded in cai berry.
Adaptogen, Endurance, Ant Immunomodulation Anti-Cancer- many mechani	i-fatigue	sclerotium	Le etter	🝂 снада		365,570
Blood Sugar, Metabolic Reg	ulation & Anti-diabetic		-	ACAI BERRY	80,000	
ANA	Active Constituents Triterpenoids	mechanisms			40,000	
Contraction of the second	Inotodiol Trametonolic acid Betulinic acid			POMAGRANITI FRUIT	3,370	
	Vitamin B2, vitamin D, ca phosphorus, manganese	lcium, iron, magnesium,		SLUEBERRY	2,450	
dr lindsay chimileski	Melanin Sesquiterpenes	Grows predominantly on birch trees, but may also be found on ash, elm, beech, alder	dr lindsay chimileski	BLACKBERRY	2.080	



Chaga and Oxalates:

Important Health Considerations

Oxalate Content and Kidney Health

Chaga does contain oxalates, so you need to be mindful with existing kidney issues or stones. It should not be taken in excessive amounts for ongoing periods of time without monitoring the kidneys.

Relative Oxalate Content

Chaga typically has a lower oxalate content than spinach but proportionally it is still good to be cautious if there are kidney ues, because the dose can be higher. Some people take very high doses of for prolonged periods of time (more than they would ingest spinach or other leafy greens).

Types of Oxalates and Their Effects

Insoluble oxalates (calcium .magnesium, iron oxalates) that are not absorbed and harmlessly pass through the colon.

Soluble oxalates (potassium and sodium oxalate) release free anions which pass into the bloodstream. These may bind to free calcium and produce calcium oxalate crystals that could lead to kidney stones, gout, or kidney damage. It also depletes calcium from where it is needed elsewhere.

CHAGA

70. doi: 10.1371/journal.pone.0259570. eCollection 2021.

Effect of Inonotus obliquus polysaccharide on composition of the intestinal flora in mice with acute endometritis

Sinhong Hu ^{1, 2}, Yuging Dong ^{1, 3}, Wenjing Zhou ¹, Yichuan Ma ¹, Luyao Li ⁴, Xianhua Fu ¹, Wenular Zhang ¹, Yuanyue Luo ¹, Jingyu Pu ¹, Xin Deng ³, Rong Zhang ⁴, Songging Liu ^{1, 2}

Affiliations + expand PMID: 34739514 PMCID: PMC8570517 DDI: 10.1371/journal.pone.0259570 Free PMC article

Abstract

Abstract Incredus deligeaux Relyascharide (IOP) is a large molecule extracted from honotos obligus, a medicinal longas, which has a vide range of biological activities and has been shown to be associated with information. The purposed of this study is to investigate whether IOP can help to reduce acute endometritis by regulating intesting form. We observed publicities whether of the reflective with endometritis following transmuser with IOP and enduated changes in the tawlet of interflectivi-100-on the interfault following transmuser with IOP and enduated changes in the tawlet of interflectivi-100-on the interfault following transmuser to IOP and enduated changes in the tawlet of interflectivi-100-on the interfault following the sametra with IOP and enduated changes in the tawlet of interflectivi-100-on the interfault following the sametra of during the fiscal and reduced the relates of gravitations. Resemble, the IOP RNA help-throughing results showed that IOP could regulate the changes in interfault an interflection of during results showed that IOP could regulate the changes in interfault an interfault and there of general, possibly by changing the relativi-structures and anze. undance of some general







D



CHAGA

Inonotus obliquus polysaccharide ameliorates impaired reproductive function caused by Toxoplasma gondii infection in male mice via regulating Nrf2-PI3K/AKT pathway

Abstract



Chaga, Memory & Learning

Mouse study

Mice given amnesia with scopolamine then treated with chaga extract Showed improvements in memory and learning Decreased oxidative stress, increased SOD and glutathione Inhibits excess Acetylcholine esterase (the enzyme that breaks it down) to increase/balance acetylcholine levels.

Amelioration of scopolamine induced cogniti dysfunction and oxidative stress by Inonotus obliquus - a medicinal mushroom



Sm Glands

- Acetylcholine is used all throughout the brain and body, huge impact on functionality and mental health
- Paying attention, memory, learning, spatial awareness, arousal.
- Acetylcholine binds to receptors on the
- muscle fiber to cause contraction.
- Depletion is associated with Alzheimer's, specifically loss of AchE enzyme



Multiple Sclerosis & Phellinus igniarius

A Mushroom Extract Piwep from Phellinus igniarius Ameliorates Experimental Autoimmune Encephalomyelitis by Inhibiting Immune Cell Infiltration in the Spinal Cord na Vilu, ² Bai Mauna, Choi, ² Bong, Georr, Jeog, ² Jin, Hee Kim, ² Gi, Hai Suna, ³ Ji na Jin, Ram^{1, 2,7}

ation Darie

The present study aims loss of study and the the therpeople potential of a mathema study aims loss of study dependent of the study depend monutation, demythiatenia adal immune cetti utilitzation in the spinal cort lever examined. Proep lagocine probadily devocated the dally inclusioner rate and clinical woor of EAU. The Nyen-mediated adally and the clinical course of EAU was accompared by suppression of devociting and infinition of neoplathlongini immuse cells including CDAT or CHO. CDAT = relis, macrophagars and B Corth in the spinal cort. Proop reduced expression of vascular cell adaesion molecule - 10/COAD 11 in the spinal cort of longinier a, in the longin how the longing how the production of the properties of the properties of the properties of the longing of the properties of the longing of the production of the spinal cort. Preve of hypotheses and additional context of the longing of the y in the hymph node of EAE mice. The results suggest that a mush h therapeutic potential for anteliorating multiple sclerosis program





"meshima" translates to "women's island in Japanese as it supports women's health black hoof mushroom, Conk Mushroom

D

Paper false turkey

golden crust

Stereum ostrea

Turkey tails

Trametes versicolo

Violet toothed polypore

Trichaptum biform

Multi color Gill polypore

Lenzites betulina

Fungi Medicine - Chimelski





Thin, papery, no pores,

smooth under and on

top,usually individual/

not fused on the sides

more funnel shaped

Velvety top, tiny whit pores underneath. blue

here but they can be oncentric rays of brown

red, white, grey, purple, black tones too.

Violet tones on edge

and underneath.

toothed underside

Often on birch, orange tones, green algae, deep gilled maze like pores



Turkey Tails & Alzheimer's

Cholinesterase inhibition of different phenolic compounds from turkey tails Baicalein as the most potent inhibitor; combined with the quercertin likely most AchE activity Apigenin, baicalein, kaempferol and quercetin expressed inhibitory effect above 90% at 100 µM. Daidzein also inhibited the respective enzyme, at the lower extent.

p-hydroxybenzoic acid was found is and is also known to exhibit the Cholinesterase inhibition

Also terpenoids, flavonoids and other phenolic substances also show inhibition of AChE activity.

Polyphenolic and polysaccharide compounds are linked to each other

The water soluble triterpenoid compounds in the H2O turkey tail extract may also contribute both to the antioxidant activity and synergistic effect of these compounds with polysaccharides, phenols and flavonoids as suggested by others



		TPhC	TFC	TPSH
11;0			82	
	DIST	0.55	0.03	0.66
	*088	0.50	0.42	0.50
ECHI				
	DPEN*	6.79	8.97	0.75
	*08	0.58	0.89	0.75
MeOH				
	DPTH*	0.87	0.48	0.88
	100	0.27	0.03	0.07

Bold numbers indicate the highest values. TPDC: and phenol content, TPC and flavoroid comme, TPSH total polynocharides; HeO water entract or versicolor; EOIE ethanelic extract of Z versicolor; MeOII: methanolic extract of Z versicolor;











SINGLE DOSE psilocybin vs. single dose niacin

Follow ups showed improvements 4.5 years after!

Anxiety, Depression, Hopelessness, Demoralization, **Death Anxiety**

Long-term follow-up of psilocybin-assisted psychotherapy for psychiatric and existential distress in patients with life-threatening cancer

Abstract

of 3.2 and 4.5 years to

These findings suggest that psilocybin-as elief from ca regarding t ess, the pre

Kevw

rds: Psilocybin; anxiety; cancer; depression; p

(Net-Addwr) > /Put-transmissi 200 Sep 338: 008-101. do: 101170208817984793 Sep 200 Key Xi Cessation and reduction in alcohol consumption and missuse after psychedelic use Atter transmissi, "are Com", "no com", "are Com", "a

Address Honore Hannes - Address - Henrich - Later United - Hannes - Hannes

Abstract

Materized Basepool: Networks of reductional scales using loange and distributions bitch to basepool: Televis and encoder suggest personal and scales and the second scale and the second scale and the scale scale scales and scales. The scale scale scale scale scale scales and scale scales and scales and scales are scales and scales and scale scales and scales and scales are scales and scales and scale scales and scales and scales are scales and scales and scale scales and scales and scales are scales and scales and scale scale scale scale and scales are scales and scales and scale scale scale scale and scales are scales and scales and scale scale scale and scales are scales and scales and scale scale scale scale scale scales are scales and scale scale scale scale scale scale scales and scales are scale scales and scale scale scale scale scale scales and scales are scale scales and scale scale scale scale scale scales and scales are scale scales and scale scale scale scale scales and scales are scale scales and scale scale scale scales and scales and scales are scales and scales are scales and scales and scales and scales are scales are scales and scales are scales are scales and scales and scales are scales are scales and scales are scales are scales and scales are scales are scales are scales and scales are scales are scaled and scales are scales are scales are scales are scales are scales are scales and scales are sca Addiction and alcohol misuse disorders

343 respondents, mostly White (89%), males (78%), in the USA (60%)

completed the survey. Participants reported seven years of problematic alcohol use on average before the psychedelic experience to which they attributed reduced alcohol

consumption, with 72% meeting retrospective criteria for severe AUD. Most reported taking a moderate or high dose of LSD (38%) or psilocybin (36%), followed by significant reduction in alcohol consumption.

After the psychedelic experience 83% no longer met AUD criteria. Participants rated their psychedelic experience as highly meaningful and insightful, with 28% endorsing psychedelic-associated changes in life priorities or values as facilitating reduced alcohol misuse.

Greater psychedelic dose, insight, mystical-type effects, and personal meaning of experiences were associated with a greater reduction in alcohol consumption, controlling for prior alcohol consumption and related distress

MISHWOOD

helping to heal a broken society

> J Psychopharmacol. 2018 Jul; 32(7):749-755. doi: 10.1177/0269881118771782.

Psychedelic use and intimate partner violence: The

role of emotion regulation Michele 5 Thiessen ¹, Zach Walsh ¹, Brian M Bird ², Adele Lafrance AMilations + expand Public 2860782, DOI: 10.1177/0269881118771782

Abstract

Background: Recent evidence suggests that psycholicalic use predicts resultance perpetrisons or normalize year in moviewers wire well involved in the criminal justice system. However, the extent to which this association pervariates to community samples has not been examined, and potential mechanisms underlying this association have not been directly explored. Alms: The present study examined the association between lifetime psychelodic use and initiate partner violence among a communit sample of man and worms. The study also tested the extent to which the associations were mediated by improved emotion regulation.

Methods: We surveyed 1266 community members aged 16-70 (mean age=22.78, standard deviation =7.71) using an online questionnaire that queried substance use, emotional regulation, and initimate partner violence. Respondents were coded as psychedicii users if hey reported one or more instance of using lysergic acid diethylamide and/or psilocybin mushrooms in their lifetime. Results' ouccomes: Males reporting any experience using lysergic acid diethylamide and/or psilocybin mushrooms had decreased odds of perpetrating physical violence against their current partner (odds ratio=0.42, p<0.05).

Furthermore, our analyses revealed that male psychedelic users reported better emotion regulation when compared to males with no history of psychedelic use. Better emotion regulation mediated the relationship between psychedelic use and lower perpetration of intimate partner violence. This relationship did not extend to females within our sample.

Conclusions/interpretation: These findings extend prior research showing a negative relationship between psychedelic use and intimate partner violence, and highlight the potential role of emotion regulation in this association.



TOOLS FOR BETTER EMOTIONAL REGULATION

To help all genders

for all

Better regulated society?! Less violence and crime

Living in harmony with the natural ways of ourselves/ the natural world within and without us.

MISHWOOM

MEDICINE



ee 10.2008/00002000.2008.2002.200.200.201 Long-term follow-up of psilocybin-facilitates smoking cessation Vertee at Joseph 7, Abert Gerbe Merke ¹, Named R Offmen ¹ F

Hilations + examt MID: 2NAH452 PMCD: PACSGETRYS. DOI: 10.3108/0005 rese PMC article Abstract

Background: A recent open-label pilot study (N = 15) found that two to three moderate to high doses (20 and 30 mg/70 kg) of the serotonin 2A receptor agonist, psilocybin, in combination with cognitive behavioral therapy (CBT) for smoking dessation, resulted in substantially higher 6-month smoking abstinence rates than are typically observed with other medications or CBT alone.

Objectives: To assess long-term effects of a psilocybin-facilitated smoking cessation program at ≥12 months after psilocybin administration.

Methods: The present report describes biologically verified smoking abstinence outcomes of the previous pilot study at ≥12 months, and related data on subjective effects of psilocybin.

Results: All 15 participants completed a 12-month follow-up, and 12 (80%) returned for a long-term (216 months) follow-up, with a mean interval of 30 months (range = 1-6.57 months) between target quit date (i.e., first psilos) for session) and long-term follow-up, and the participants (67%) were confirmed as smoking abstiment. At long-term follow-up, up participants (67%) were confirmed as smoking abstiment. At long-term follow-up, up participants (66.7%) reted their psilos/pbin experiences among the five most personally meaningful and spiritually significant experiences of their lives.

Conclusion: These results suggest that in the context of a structured treatment program, psilocybin holds considerable promise in promoting long term smoking abstinence. The present study adds to recent and historical evidence suggesting high success rates when using classic psychediecis in the treatment of addiction. Further research investigating psilocybin facilitated treatment of substance use disorders is warranted.

ungi Wisdom Apprenticeship. Lindsay Chimileski ND LAc RH(AHG)



They sell Nicotine gum and patch as "statistically significant" at 6-15%! and you have to keep using them as replacement 2-3 high dose Psilocybin sessions + CBT therapy = 60% smoking abstinent at long term follow up



Huge potential for pain control, anxiety, depression etc depending on the constitution of t individual / circumstances.

Ibotenic acid acts as an agonist of the glutamate at the *N*-methyl-d-aspartate (NMDA) glutamate receptors

while muscimol is a gamma-aminobutyric acid (GABA) agonist, targeting GABAA receptor.

Amanita species is responsible for amatoxin and the very deadly death cap mushro **Thy Agaric**





Amanita muscaria

PSILOCYBE: depression, anxiety, PTSD, pelvic stagnation AMANITA MUSCARIA Chronic pain, Dysmenorrhea OYSTERS & Culinary Fungi: immunocompromised



Mushroom Medicine for Everyone. Lindsay Chimileski ND LAc RH(AHG)

Fungi Medicine - Chimelski

Funai Medicine - Chimelski





All of our medicinal mushrooms are going to touch on these mechanisms—due to shared basic polysaccharides, antioxidants, minerals, triterpenoids and vitamins,

Of course there are some nuances to it and specific indications but in general they ALL will help brain health.



dose.

Foraging Safety Foundations

- 1. The "Banana" Rule : You should be as confident at ID the item you are going to eat as you are at IDing a banana
- It is a good practice to learn the ID in stages. ID it in the field a few times, 2. bring samples to check with books or peers. After confidently IDing it 2-3x then think about eating it.
- Eat one new wild item at a time. Especially if you tend to have a reactive system or digestive issues. You want to be able to know which items cause 3. symptoms if you had any.
- 4. Eat small amounts of the item the first time. That way if you have a reaction it is not as severe. Especially true for mushrooms, for example chicken of the woods.
- Always check and learn the deadly or poison look a-a-likes so you know how to correctly tell between the two and confidently select the safe option.
- 6. If there are any doubts, don't.



Environmental Steward harvesting rules

- Know your local endangered species and do not collect, if in doubt, don't collect. Know your local invasive, and do collect. 1. 2. 3.
- Harvest upper plant parts, stems, leaves, flowers things that regrow each season more than roots, bulbs tree bark or parts that would prevent it from growing 4. Rule of 3: harvest only if you see *at least* 3 of that kind in the area you are
- harvesting from. Rule of "thirds"- never harvest more than a 3rd of what you see.
- 5. 6. Take only what you need. Don't get overzealous, harvest what you will use, try not to waste. 7.
- not to waste. Mindful exchange and gratitude- this can be done many ways based on your preference but some kind of thank you and appreciation while harvesting. Bring an extra bag for collecting trash you see along the way as a thank you to 8. the system.
- 9
- 10.
- 11. 12.
- the system. Return to spread seed other times of the years. Use sharp tools when you can for clean cuts and less stress on the plant Be respectful of local indigenous practices that utilize these wild allies and do not deplete their sources simply bc it is trendy or you are selling something. Be mindful, smart and safe- be aware of where you are harvesting for run off/ pesticides, environmental hazards, ticks, poison ivy. Minimize reckless driving when you spot a mushroom on the side of the road.



