NATURAL HEALTH PRODUCT

REISHI – *GANODERMA LUCIDUM*

This monograph is intended to serve as a guide to industry for the preparation of Product Licence Applications (PLAs) and labels for natural health product market authorization. It is not intended to be a comprehensive review of the medicinal ingredient.

Notes

- Text in parentheses is additional optional information which can be included on the PLA and product label at the applicant’s discretion.
- The solidus (/) indicates that the terms or the statements are synonymous. Either term or statement may be selected by the applicant.

Date

January 20, 2015

Proper name(s)

*Ganoderma lucidum* (Curtis) P. Karst. 1881 (Ganodermataceae) (CABI 2011; PPRC 2010)

Common name(s)

- Reishi (PPRC 2010; Bensky *et al.* 2004; McGuffin *et al.* 2000)
- Ganoderma (PPRC 2010; Bensky *et al.* 2004; McGuffin *et al.* 2000)
- Ling zhi (Bensky *et al.* 2004; Chen and Chen 2004; McGuffin *et al.* 2000)

Source material(s)

- Fruiting body (PPRC 2010; Leung and Foster 2003; Upton 2000; Flynn and Roest 1995)
- Cultured mycelia (Yarnell *et al.* 2003; Wasser 2002)
- Mycelia (Godfrey *et al.* 2010)

Route(s) of administration

Oral

Dosage form(s)

- The acceptable pharmaceutical dosage forms include, but are not limited to capsules, chewables (e.g. gummies, tablets), liquids, powders, strips or tablets.
This monograph is not intended to include foods or food-like dosage forms such as bars, chewing gums or beverages.

**Use(s) or Purpose(s)** Statement(s) to the effect of

**Fruiting body**

- Used in Traditional Chinese Medicine (TCM) to dispel phlegm, stop cough and arrest wheezing (PPRC 2010; Bensky *et al.* 2004; Chen and Chen 2004).
- Used in Traditional Chinese Medicine (TCM) to nourish the Heart and strengthen qi and blood to treat Heart and Spleen deficiencies that manifest in insomnia, forgetfulness, fatigue, listlessness and poor appetite (PPRC 2010; Bensky *et al.* 2004; Chen and Chen 2004).
- Used in Traditional Chinese Medicine (TCM) to strengthen the body and tonify qi (PPRC 2010; Bensky *et al.* 2004; Chen and Chen 2004).

**Fruiting body; Cultured mycelia; Mycelia**

- Source of/Provides antioxidants (Wachtel-Galor *et al.* 2011; Godfrey *et al.* 2010; Wicks *et al.* 2007).
- Source of fungal polysaccharides with immunomodulating properties (Chan *et al.* 2009; Wasser 2002).
- Used in Herbal Medicine as a liver tonic (Godfrey *et al.* 2010; Yarnell *et al.* 2003; Saunders 2000; Huang 1999; Peirce 1999; Belanger 1997; Hsu *et al.* 1986).
- Used in Herbal Medicine as an adaptogen to help increase energy and resistance to stress (in case of mental and physical fatigue related to stress) (Godfrey *et al.* 2010; Hobbs 2003; Hoffmann 2003; Leung and Foster 1996).

**Dose(s)**

**Subpopulation(s)**

Adults (≥ 18 years)

**Quantity(ies)**

Potency (Optional): Up to 40 % polysaccharides

Antioxidant; Source of polysaccharides

Decoction
Up to 15 g dried reishi, per day (Wachtel-Galor et al. 2011)

Dry, Powder, tincture, fluid extract
Up to 6 g dried reishi, per day (Godfrey et al. 2010)

Liver tonic; Adaptogen; TCM – cough; TCM – heart; TCM – tonify qi

Decoction
3-15 g dried reishi, per day (Godfrey et al. 2010; PPRC 2010; Bensky et al. 2004; Chen and Chen 2004).

Dry, Powder, tincture, fluid extract
1.5-6 g dried reishi, per day (Bensky et al. 2004; Chen and Chen 2004; Hobbs 2003; Upton 2000; Huang 1999).

Immune support

Decoction
3-15 g dried reishi, per day (Wachtel-Galor et al. 2011; Wasser 2002).

Tincture, fluid extract
1.5-6 g dried reishi, per day (Godfrey et al. 2010)

Directions for use

To avoid digestive upset, take with food/meal (Flynn and Roest 1995).

Notes
- Non-extracted powder preparations are not acceptable to support the recommended use “Used in Herbal Medicine to support the immune system”.
- Refer to Appendix 1 for a summary of acceptable doses based on method of preparation.
- Refer to Appendix 2 for an example of decoction preparation.

Duration of use

No statement required.

Risk information Statement(s) to the effect of

Caution(s) and warning(s)

TCM – cough

If symptoms persist or worsen, consult a health care practitioner.
Contraindication(s)

No statement required.

Known adverse reaction(s)

Hypersensitivity/allergy can occur; in which case, discontinue use. (derMarderosian and Beutler 2008; Bensky et al. 2004; Gao et al. 2003, 2002).

Storage conditions

Statement(s) to the effect of

Store in a dry place at room temperature (PPRC 2010).

Non-medicinal ingredients

Must be chosen from the current Natural Health Products Ingredients Database (NHPID) and must meet the limitations outlined in the database.

Specifications

- The finished product specifications must be established in accordance with the requirements described in the Natural and Non-prescription Health Products Directorate (NNHPD) Quality of Natural Health Products Guide.
- The medicinal ingredient must comply with the requirements outlined in the NHPID.

References cited


Wasser SP. Medicinal mushrooms as a source of antitumor and immunomodulating polysaccharides. Applied Microbiology and Biotechnology 2002;60(3):258-274.


References reviewed


Brinker 2010: Brinker F. Final updates and additions for Herb Contraindications and Drug Interactions, 3rd edition, including extensive Appendices addressing common problematic conditions, medications and nutritional supplements, and influences on Phase I, II & III metabolism with new appendix on botanicals as complementary adjuncts with drugs. [Internet]. Sandy (OR): Eclectic Medical Publications. [Updated July 13, 2010; Accessed 2012 April 19]. Available from: http://www.eclecticherb.com/emp/updatesHCDI.html


Chen AW, Miles PG. Biomedical research and the application of mushroom nutraceuticals from Ganoderma lucidum. In: Royse DJ, editor. Mushroom biology and mushroom products. 1996:


Joseph S, Sabulal B, George V, Simina TP, Janardhanan KK. Antioxidative and antiinflammatory activities of the chloroform extract of *Ganoderma lucidum* found in South India. Scientia Pharmaceutica 2009;77:111-121.


### Appendix 1  Summary of acceptable doses based on method of preparation

<table>
<thead>
<tr>
<th>Recommended use</th>
<th>Daily dose of dried reishi (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Decoction&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>Antioxidant; Source of polysaccharides</td>
<td>Up to 15</td>
</tr>
<tr>
<td>Liver tonic; Adaptogen</td>
<td>3 - 15</td>
</tr>
<tr>
<td>Immune support</td>
<td>3 - 15</td>
</tr>
<tr>
<td>TCM – cough; TCM – heart; TCM – tonify qi</td>
<td>3 - 15</td>
</tr>
</tbody>
</table>

1: At least one of the following references was consulted per recommended use: Wachtel-Galor et al. 2011; Godfrey et al. 2010; PPRC 2010; Bensky et al. 2004; Chen and Chen 2004; Wasser 2002
2: At least one of the following references was consulted per recommended use: Godfrey et al. 2010; PPRC 2010; Bensky et al. 2004; Chen and Chen 2004; Hobbs 2003
3: At least one of the following references was consulted per recommended use: Godfrey et al. 2010; Upton 2000, Huang 1999
Appendix 2

Decoction

Boil 2-15 g of chopped or powdered reishi mushrooms in approximately 2 L of water. Slowly simmer for 20-60 minutes. When the water is reduced to approximately 2/3 then strain the liquid (Upton 2000).