

## APPLICATIONS

- Microbial Support
- Immune System Support
- Inflammatory Response Support



## INTRODUCTION

This product is a synergistic blend of hydro-ethanol extracts from Cumanda (*Campsiandra angustifolia*) bark and Houttuynia (*Houttuynia cordata*) leaf. It is designed to assist with comprehensive microbial support, with additional antioxidant support and healthy inflammatory response support.\* Our liquid extracts are made at our U.S. manufacturing facility using a specialized proprietary extraction process that optimizes the constituents of the herbs in their original, unprocessed state to obtain broad-spectrum concentration. Because our extracts are made in our own facility, we control all aspects of quality, including stringent ID testing, microbial testing, and heavy metal testing. NutraMedix rigorously follows current good manufacturing practices (cGMP), as do our suppliers.

Cumanda is an extract from the bark of *Campsiandra angustifolia* also known as *Campsiandra angustifolia* Benth., *Campsiandra angustifolia* var. *angustifolia*, and huacapurana.<sup>1,2</sup> It belongs to the *Fabaceae/Leguminosae* family and the *Caesalpinaceae* subfamily, which contains many species of *Campsiandra*.<sup>3-6</sup> While huacapurana is a more general name that can apply to several *Campsiandra* species, *C. angustifolia* is considered the authentic Peruvian huacapurana.<sup>2</sup>

*C. angustifolia* is a medium-sized tree native to Peru and Northern Brazil that is used by local people for food as well as health.<sup>2</sup> Constituents found within the bark include proanthocyanidins, flavonoids, gallotannins, and caffeoylquinic acid.<sup>7</sup> Secondary metabolites include steroids, flavonoids, saponins and tannins.<sup>8</sup> In traditional historical use, it has been used for microbial support, healthy inflammatory response support, and gastrointestinal support.<sup>9-11</sup> Cumanda is most known for its robust and diverse microbial support.<sup>6,12-14</sup>

Houttuynia is a hydro-ethanol extract from *Houttuynia cordata* leaf, which is in the *Saururaceae* family. It is known as yu xing cao in traditional Chinese health practices and is found throughout Southeast Asia. Constituents include volatile oils such as alpha-pinene, d-limonene, citronellol, carvacrol, and thymol,<sup>15</sup> flavonoids such as quercetin, quercitrin, isoquercitrin, and rutin,<sup>15</sup> organic acids such as chlorogenic acid, palmitic acid, and linoleic acid;<sup>16</sup> phytosterols such as stigmasterol and beta-sitosterol;<sup>16</sup> and water-soluble polysaccharides.<sup>17</sup> *H. cordata* also contains houttuynoside A and houttuynamide A, in addition to amino acids, vitamins, and trace minerals.<sup>17-19</sup>

*H. cordata* (leaf) may help with microbial support,<sup>20-24</sup> immune system support,<sup>25-31</sup> healthy inflammatory response support,<sup>32-36</sup> and gastrointestinal support.<sup>37-39</sup>

## MICROBIAL SUPPORT

*C. angustifolia* (bark) may help with single-celled microbial support, and thus, may help to maintain health of erythrocytes and macrophages.<sup>6,12,13</sup> It may also help with microbial support of varied gram status.<sup>13,14</sup> Additionally, *C. angustifolia* may help with mycelial support.<sup>14</sup>

*H. cordata* may help with both intracellular and extracellular microbial support. It may help with microbial support for diverse strains with dose-dependent zone diameters of inhibition,<sup>20</sup> and may also help with microbial support for a variety of morphological forms.<sup>21</sup> Additionally, it may provide microbial support for smaller intracellular microbes and help to maintain normal host immunity.<sup>22,23</sup> In addition to intracellular microbial support, *H. cordata* may help to support relevant respiratory and intestinal mucosa through maintaining cytokines/chemokines, secretory IgA (sIgA), zonula occludens-1 (ZO-1)/tight junction protein, TLR4, and NF-kappaB already within the normal range.\*<sup>24</sup> *H. cordata* may help to maintain a healthy gut-lung axis.\*<sup>24</sup> Additionally, it may help to support healthy gingival epithelium as well as balanced oral microbiota, including mycelial support.<sup>21</sup>

## IMMUNE SUPPORT

*H. cordata* may help with immune system support through maintaining healthy levels of CD4+ and CD8+ T cells that are already within the normal range.<sup>25</sup> It may help to support the innate immune response by maintaining levels of reactive nitrogen intermediates (RNI), such as nitric oxide (NO), and reactive oxygen intermediates (ROI), such as superoxide, that are already within the normal range. It may also help to support the morphological change of macrophages from the round form to the dendritic form, supporting normal phagocytic activity as well as normal NO production.<sup>26</sup> *H. cordata* may assist with immune system support through the maintenance of a healthy Th1/Th2 ratio, in addition to the maintenance of Th2-dependent cytokines IL-4 and IL-5 already within the normal range.<sup>27</sup> Additionally, it may help with IgE-mediated immune support by maintaining IL-4, TNF-alpha, and NF-kappaB already within the normal range.\*<sup>28</sup> *H. cordata* may help to maintain MIP-1-alpha, MIP-1-beta, and RANTES in human peripheral blood mononuclear cells (PBMCs) already within the normal range.<sup>29</sup> It may also help to support health through its effect on the complement cascade.<sup>30,31</sup>

## INFLAMMATORY RESPONSE SUPPORT

*H. cordata* may help with antioxidant support and healthy inflammatory response support.<sup>32</sup> It may help to support healthy function of the NF-kappaB and MAPK pathways and may help to maintain cytokine levels already within the normal range.<sup>32</sup> It may also help to maintain levels of TNF-alpha, NO, IL-6, IL-8 and PGE2 already within the normal range.\*<sup>33,34</sup> The constituent houttuynamide A (becatamide) may additionally help to maintain levels of COX-1 and COX-2 already within the normal range.\*<sup>35,36</sup> In traditional Chinese health practices, *H. cordata* is used to clear heat.\*<sup>15,16</sup>

## SAFETY AND CAUTIONS

*C. angustifolia* (bark) has been used traditionally by native South American peoples for some time. Despite this, information on interactions and adverse events is sparse. Currently, there are no known cautions or interactions, though this may change with additional research and new knowledge. Theoretically, *C. angustifolia* may have additive effects with PDE-5 inhibitors.<sup>7,9</sup>

There are no known contraindications to the use of *H. cordata*. It has been used for centuries in traditional Chinese health practices, with the first known mention in Ming Yi Za Zhu (Miscellaneous Records of Famous Physicians) by Tao

Hong-Jing in 500 CE. In laboratory animals, oral administration of 16 mg/kg was found to be non-toxic.<sup>25</sup> In vitro and mouse studies have shown no evidence of genotoxicity or other toxicity,<sup>25,32,40</sup> and the herb is considered a safe and edible plant.<sup>43,8</sup>

Safety not documented in breastfeeding or pregnant women, or in children under 3 years of age due to insufficient safety research.

**\* These statements have not been evaluated by the Food and Drug Administration. This product is not intended to treat, cure, or prevent any diseases.**

**NutraMedix.**

**NUTRA-BRT**

**MICROBIAL SUPPORT<sup>†</sup>**

**Dietary Supplement**

**2 fl oz. (60 mL)**

**SHAKE WELL BEFORE EACH USE.**  
Put 2 to 60 drops in 4 oz (120 mL) of water and wait one minute before drinking. Start with 2 drops (30 min before meals) increasing by 2 drops with each dose up to 60 drops, 2 times a day or as directed by physician. Do not use if pregnant or nursing. Stop use if adverse reactions develop. Keep out of reach of children.

**†This statement has not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.**

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**Supplement Facts**  
Serving Size 60 drops (3mL)  
Servings Per Container 20

Amount Per Serving	
Proprietary Blend	3 mL*
Campsiandra angustifolia bark extract and	
Houttuynia herb extract	

\*Daily Value not established

**Other ingredients:** mineral water, ethanol (20-24%)

**NutraMedix.**  
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561-745-2917

Lot #  
Exp.

## REFERENCES

- 11 Campsiandra angustifolia Benth. — The Plant List. Theplantlist.org. (2021). Retrieved 10 December 2021, from <http://www.theplantlist.org/tpl13/record/llid-20132>.
- 2 Tropical Plants Database, Ken Fern. tropical.theferns.info. (2021). Retrieved 10 December 2021, from <http://tropical.theferns.info/viewtropical.php?id=Campsiandra+angustifolia>.
- 3 Campsiandra angustifolia Benth. Encyclopedia of Life. Eol.org. (2021). Retrieved 10 December 2021, from <https://eol.org/pages/640211>.
- 4 Campsiandra angustifolia. Worldfloraonline.org. (2021). Retrieved 10 December 2021, from <http://www.worldfloraonline.org/search?query=campsiandra+angustifolia>.
- 5 Farji-Brener, A. G., Durán, S., et al. (2005). Revista de Biología Tropical, 53(1-2), 63–71.
- 6 Ruiz, L., Ruiz, L., et al. (2011). Journal of Ethnopharmacology, 133(2), 917–921.
- 7 Schmeda-Hirschmann, G., Burgos-Edwards, A., et al. (2019). Journal of Ethnopharmacology, 229, 167–179.
- 8 Flores, P.C. & Andoa, D. H. (2014). UNAP Repositorio Institucional Digital. <https://repositorio.unapikitos.edu.pe/handle/20.500.12737/4399>
- 9 Ganapathy, A. A., Hari Priya, V. M., & Kumaran, A. (2021). Journal of Ethnopharmacology, 267, 113526.
- 10 de Pascoa Júnior, J. G., & de Souza, C. L. L. (2021). Research, Society and Development, 10(14), e163101419965.
- 11 Huaranca Acostupa, R. J., Armas Bardales, J. J., & Vigo Teco, R. M. (2013). Conoc Amaz, 4(2), 77–86.
- 12 Kvist, L. P., Christensen, S. B., et al. (2006). Journal of Ethnopharmacology, 106(3), 390–402.
- 13 Vasquez-Ocmin, P., Cojean, S., et al. (2018). Journal of Ethnopharmacology, 210, 372.
- 14 Roumy, V., Ruiz Macedo, J. C., et al. (2020). Journal of Ethnopharmacology, 249, 112411.
- 15 Chen, J., Chen, T., & Crampton, L. (2004). Chinese medical herbology and pharmacology (pp. 216–217). Art of Medicine Press.
- 16 Bensky, D., Clavey, S., & Stöger, E. (2004). Chinese herbal medicine materia medica (3rd ed., pp. 176–178). Seattle: Eastland Press.
- 17 Yang, L. & Jiang, J-G. (2009). Pharmaceutical Biology, 47(12), 1154–1161.
- 18 Kumar, M., Prasad, S. K., & Hemalatha, S. (2014). Pharmacognosy Reviews, 8(15), 22–35.
- 19 Chou, S. C., Su, C. R., et al. (2009). Chemical & Pharmaceutical Bulletin, 57(11), 1227–1230.
- 20 Li, J., Rehman, M. U., et al. (2017). Southeast Asian Journal of Tropical Medicine and Public Health, 48(6), 1260–1266.
- 21 Sekita, Y., Murakami, K., et al. (2016). BioMed Research International, 2016, 2581876.
- 22 Chiow, K. H., Phoon, M. C., et al. (2016). Asian Pacific Journal of Tropical Medicine, 9(1), 1–7.
- 23 Remali, J., & Aizat, W. M. (2021). Frontiers in Pharmacology, 11, 589044.
- 24 Zhu, H., Lu, X., et al. (2018). Journal of Ethnopharmacology, 218, 90–99.
- 25 Lau, K. M., Lee, K. M., et al. (2008). Journal of Ethnopharmacology, 118(1), 79–85.
- 26 Kim, G. S., Kim, D. H., et al. (2008). Biological & Pharmaceutical Bulletin, 31(11), 2012–2017.
- 27 Lee, J. S., Kim, I. S., et al. (2008). Journal of Ethnopharmacology, 117(1), 34–40.
- 28 Han, E. H., Park, J. H., et al. (2009). Food and Chemical Toxicology: An international journal published for the British Industrial Biological Research Association, 47(7), 1659–1666.
- 29 Cheng, B. H., Chan, J. Y., et al. (2014). Carbohydrate Polymers, 103, 244–249.
- 30 Jiang, Y., Lu, Y., et al. (2014). Natural Product Research, 28(6), 407–410.
- 31 Zhang, T., & Chen, D. (2008). Journal of Ethnopharmacology, 117(2), 351–361.
- 32 Shingnaisui, K., Dey, T., et al. (2018). Journal of Ethnopharmacology, 220, 35–43.
- 33 Lee, H. J., Seo, H. S., et al. (2013). Molecular Medicine Reports, 8(3), 731–736.
- 34 Chun, J. M., Nho, K. J., et al. (2014). BMC Complementary and Alternative Medicine, 14, 234.
- 35 Park J. B. (2015). Phytotherapy Research: PTR, 29(9), 1381–1387.
- 36 Li, W., Zhou, P., et al. (2011). Journal of Ethnopharmacology, 133(2), 922–927.
- 37 Chen, M. Y., Li, H., et al. (2019). Chinese Journal of Natural Medicines, 17(3), 187–197.
- 38 Jiang, X. L., & Cui, H. F. (2004). World Journal of Gastroenterology, 10(10), 1513–1520.
- 39 Shi, C. C., Zhu, H. Y., et al. (2020). International Journal of Biological Macromolecules, 158, 52–66.
- 40 Kang, C. K., Hah, D. S., et al. (2012). The American Journal of Chinese Medicine, 40(5), 1019–1032.