

# Mora™

## Applications

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|---|----------------------------|
| • Healthy Inflammatory Response Support | • Gastrointestinal Support |
| • Antioxidant Support                   | • Microbial Support        |
|   | • Neurological Support     |



## Introduction

**NutraMedix Mora™** is a proprietary blend of hydro-ethanol extracts from **yarrow flower** (*Achillea millefolium*), **blackberry leaf** (*Rubus fruticosus*), and **capirona bark** (*Calycophyllum spruceanum*).

**Yarrow flower** (*A. millefolium*) belongs to the Asteraceae family. Synonyms for *A. millefolium* include *A. borealis*, *A. magna*, and *A. lanulosa*.<sup>1</sup> Constituents of yarrow include phenolic acids such as gallic acid, 2-OH-benzoic acid, chlorogenic acid, vanillic acid, caffeic acid, syringic acid, p-coumaric acid, sinapic acid, ferulic acid, and cinnamic acid. Flavonoid aglycones and glycosides include myricetin, luteolin, kaempferol, rutin, and hyperoside.<sup>2</sup> Yarrow is traditionally used for gastrointestinal support.<sup>3</sup>

**Blackberry leaf** (*R. fruticosus*) belongs to the Rosaceae family. Synonyms for *R. fruticosus* include *R. plicatus*, *R. affinis*, *R. canadensis*, *R. millspaughii*, and *R. laciniatus*.<sup>4</sup> Blackberry leaves are traditionally used for microbial support.<sup>5</sup> Blackberry leaf contains phenolic acids such as neo-chlorogenic acid, caffeic acid, gallic acid, p-coumaric acid, and ellagic acid; flavonols such as quercetin, quercetin-3-O-galactoside, quercetin-3-O-glucuronide, and kaempferol; flavan-3-ols such as catechin, epicatechin, and epicatechin gallate methyl gallate; ellagitannins such as sanguin H-6/

Lambertianin C, and casuarinin; anthocyanins such as cyanidin-3-O-glucoside; and triterpene acids such as rubinic acid and rubutic acid.<sup>6,7</sup> Blackberry leaf also contains tannins, villosin, gallic acid, and iron.<sup>5</sup>

**Capirona bark** (*C. spruceanum*) belongs to the Rubiaceae family.<sup>8</sup> It is also known as *Eukylista spruceana*.<sup>9</sup> It is native to the Amazon rainforest and is sometimes called the “Tree of Youth.”<sup>10</sup> It has been used in traditional medicine for healthy inflammatory response support.<sup>11</sup> Constituents of capirona include seco-iridoids 6'-O-acetyldideroside, 7-methoxydideroside, 8-O-tigloyldideroside, kingiside, secoxyloganin, and dideroside; as well as iridoids loganin and loganetin.<sup>12</sup> Others constituents include gardenoside, cyanidin, 5-hydroxymorin, 5-hydroxy-6-methoxycoumarin-7-glucoside, and taxifolin.<sup>10</sup>

**NutraMedix Mora** is 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.

## Healthy Inflammatory Response Support

**Yarrow flower** (*A. millefolium*) may support a healthy inflammatory response through the maintenance of cytokines such as INOS, COX-2, and IL-6 already within the normal range, as shown in preclinical studies.<sup>13</sup> It may also provide inflammatory response support through the maintenance of human neutrophil elastase already within the normal range.<sup>13</sup> In mice, yarrow helped support normal dermal thickness and to maintain IgE levels already within the normal range.<sup>13</sup> Additionally, it may help support normal filaggrin expression already within the normal range.<sup>13</sup> In humans, yarrow's healthy inflammatory response support is partly attributed to the constituent apigenin, which may help maintain NF-kappaB and COX-2 already within the normal range.<sup>14</sup> Apigenin may also help maintain IL-6, IL-8, and prostaglandin synthesis already within the normal range.<sup>15</sup> **Blackberry leaf** (*R. fruticosus*) contains cyanidin-3-O-glucoside which may support a healthy inflammatory response through NO expression and the maintenance of NF-kappaB already within the normal range.<sup>7</sup>

## Antioxidant Support

**Yarrow flower** (*A. millefolium*) may provide antioxidant support, as quantified by DPPH assay,<sup>16</sup> which is attributed to its flavonoid compounds.<sup>17</sup> **Blackberry leaf** (*R. fruticosus*) may also assist with antioxidant support.<sup>18,19</sup> The phenolic content of blackberry leaf has been determined spectrophotometrically, and its free radical scavenging capacity was determined via DPPH assay.<sup>18</sup> The constituent cyanidin-3-O-glucoside may provide particularly robust antioxidant support.<sup>7</sup> **Capirona bark** (*C. spruceanum*) may also help with antioxidant support, as quantified by DPPH, ABTS, singlet oxygen, superoxide anion radical, and beta-carotene bleaching methods.<sup>10,11</sup> In vivo antioxidant support was seen in *Caenorhabditis elegans* (*C. elegans*).<sup>10</sup>

## Gastrointestinal Support

**Yarrow flower** (*A. millefolium*) may help with gastrointestinal support.<sup>20</sup> It may help support and maintain healthy gastrointestinal mucosa,<sup>21</sup>

attributed to antioxidant activity as measured by glutathione (GSH) and superoxide dismutase (SOD) levels in rats.<sup>22</sup> Yarrow may help support intestinal smooth muscle relaxation,<sup>20</sup> attributed to the flavonoid content,<sup>3</sup> and may also support hepato-biliary health, attributed to choleric support from the dicaffeoylquinic acids.<sup>3</sup> Additionally, yarrow may help support normal gastric emptying, attributed to the constituent choline.<sup>23</sup> **Blackberry leaf** (*R. fruticosus*) and its ellagitannins may help support healthy gastrointestinal mucosa through maintaining NF-kappaB already within the normal range.<sup>24</sup>

## Other Support

### Microbial Support

**Yarrow flower** (*A. millefolium*) may help with microbial support.<sup>25</sup> **Blackberry leaf** (*R. fruticosus*) may also help with microbial support.<sup>26</sup> Blackberry leaf hydro-alcoholic extract offered the most robust support, as quantified by a 6–11 mm zone of inhibition.<sup>26</sup>

### Neurological Support

**Yarrow flower** (*A. millefolium*) may help support a calm and healthy mood, the mechanism of which is not yet understood—though it is known to be independent of GABA receptor action.<sup>27,28</sup> **Blackberry leaf** (*R. fruticosus*) may also support a healthy mood.<sup>29</sup>

## Safety and Cautions

**Yarrow flower** (*A. millefolium*) is generally well tolerated. There have been reports of urticaria or atopic dermatitis from topical exposure, which is generally attributed to the presence of sesquiterpene lactones.<sup>30</sup> Large amounts taken internally may cause diuretic effects.<sup>31</sup> Yarrow may have additive effects with anticoagulant or antiplatelet medications, as well as with sedative medications.<sup>1</sup> As yarrow may support diuresis, the dosage of pharmaceutical lithium needs to be closely monitored and may need to be lowered.<sup>1</sup> Yarrow may cause allergic reactions in those allergic to other plants in the Asteraceae family, such as ragweed.<sup>32</sup> It may also have mild estrogenic effects.<sup>33</sup> Yarrow is contraindicated in pregnancy.<sup>1</sup>

**Blackberry leaf** (*R. fruticosus*) is generally well tolerated, and there is little information available on potential side effects. Insufficient data is

available to determine the safety of blackberry leaf in pregnancy.<sup>4</sup>

**Capirona bark** (*C. spruceanum*) is generally well tolerated in clinical use. Data is limited, and more research is needed. There is no evidence of toxicity in mice.<sup>34</sup>

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

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

## References

- <sup>1</sup>Natural Medicines. (2021). Yarrow [monograph]. <http://naturalmedicines.therapeuticresearch.com>
- <sup>2</sup>Georgieva, L., Gadjalova, A., et al. (2015). *International Food Research Journal*, 22(4) 1347-1352.
- <sup>3</sup>Benedek, B., & Kopp, B. (2007). *Wiener Medizinische Wochenschrift* (1946), 157(13-14), 312-314.
- <sup>4</sup>Natural Medicines. (2021). Blackberry [monograph]. <http://naturalmedicines.therapeuticresearch.com>
- <sup>5</sup>Verma, R., Gangrade, T., et al. (2014). *Pharmacognosy Reviews*, 8(16), 101-104.
- <sup>6</sup>Ferlemi, A.V., & Lamari, F.N. (2016). *Antioxidants*, 5(2), 17.
- <sup>7</sup>Zia-Ul-Haq, M., Riaz, M., et al. (2014). *Molecules*, 19(8), 10998-11029.
- <sup>8</sup>Polesna, L., Polesny, Z., et al. (2011). *Pharmaceutical Biology*, 49(2), 125-136.
- <sup>9</sup>*Calycophyllum spruceanum* (Benth.) Hook.f. ex K.Schum. Worldfloraonline.org. (2021). Retrieved 15 July 2021, from <http://www.worldfloraonline.org/taxon/wfo-0000782163>.
- <sup>10</sup>Peixoto, H., Roxo, M., et al. (2018). *Molecules*, 23(3), 534.
- <sup>11</sup>de Vargas, S.F., Almeida, P.D., et al. (2016). *BMC Complementary and Alternative Medicine*, 16, 83.
- <sup>12</sup>Cardona Zuleta, L.M., Cavalheiro, A.J., et al. (2003). *Phytochemistry*, 64(2), 549-553.
- <sup>13</sup>Ngo, H., Hwang, E., et al. (2020). *The American Journal of Chinese Medicine*, 48(5), 1121-1140.
- <sup>14</sup>Srivastava, J.K., Pandey, M., et al. (2009). *Life Sciences*, 85(19-20), 663-669.
- <sup>15</sup>Rathee, P., Chaudhary, H., et al. (2009). *Inflammation & Allergy Drug Targets*, 8(3), 229-235.
- <sup>16</sup>Guz, L., Adaszek, L., et al. (2019). *Polish Journal of Veterinary Sciences*, 22(2), 369-376.
- <sup>17</sup>Barut, E.F., Barut, B., et al. (2017). *Turkish Journal of Biochemistry*, 42(4), 493-502.

- <sup>18</sup>Asnaashari, M., Tajik, R., et al. (2015). *Journal of Food Science and Technology*, 52(8), 5180-5187.
- <sup>19</sup>Zielonka-Brzezicka, J., Nowak, A., et al. (2016). *Pomeranian Journal of Life Sciences*, 62(4), 52-59.
- <sup>20</sup>Moradi, M.T., Rafieian-Koupaei, M., et al. (2013). *African Journal of Traditional, Complementary, and Alternative Medicines*, 10(6), 499-503.
- <sup>21</sup>Cavalcanti, A.M., Baggio, C.H., et al. (2006). *Journal of Ethnopharmacology*, 107(2), 277-284.
- <sup>22</sup>Potrich, F.B., Allemand, A., et al. (2010). *Journal of Ethnopharmacology*, 130(1), 85-92.
- <sup>23</sup>Borrelli, F., Romano, B., et al. (2012). *Neurogastroenterology and Motility*, 24(2), 164-e90.
- <sup>24</sup>Sangiovanni, E., Vrhovsek, U., et al. (2013). *PloS One*, 8(8), e71762.
- <sup>25</sup>Stojanović, G., Radulović, N., et al. (2005). *Journal of Ethnopharmacology*, 101(1-3), 185-190.
- <sup>26</sup>Weli, A.M., Al-Saadi, H.S., et al. (2020). *Toxicology Reports*, 7, 183-187.
- <sup>27</sup>Baretta, I.P., Felizardo, R.A., et al. (2012). *Journal of Ethnopharmacology*, 140(1), 46-54.
- <sup>28</sup>Sarris, J., McIntyre, E., et al. (2013). *CNS Drugs*, 27(3), 207-219.
- <sup>29</sup>Riaz, M., Zia-Ul-Haq, M., et al. (2014). *Turkish Journal of Medical Sciences*, 44(3), 454-460.
- <sup>30</sup>Jovanović, M., Poljacki, M., et al. (2004). *Medicinski Pregled*, 57(5-6), 209-218.
- <sup>31</sup>de Souza, P., Crestani, S., et al. (2013). *Journal of Ethnopharmacology*, 149(1), 157-161.
- <sup>32</sup>Hausen, B.M., Breuer, J., et al. (1991). *Contact Dermatitis*, 24(4), 274-280.
- <sup>33</sup>Saeidnia, S., Gohari, A., et al. (2011). *Daru: journal of Faculty of Pharmacy, Tehran University of Medical Sciences*, 19(3), 173-186.
- <sup>34</sup>da Silva, A., Amorim, R., et al. (2018). *Journal of Ethnopharmacology*, 219, 103-109.

**NutraMedix.**

**SHAKE WELL BEFORE EACH USE:**  
Put 15 to 30 drops in 4 oz (120 mL) of water and wait one minute before drinking, take 2-4 times per day or as directed by your physician. Do not use if pregnant or nursing. Stop use if adverse reactions develop. Keep out of reach of children.

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

**MORA™**  
**GASTROINTESTINAL/  
MICROBIAL SUPPORT†**  
**Dietary Supplement**  
**1 fl oz. (30mL)**

**Supplement Facts**  
Serving Size: 30 drops  
Servings Per Container: 20

Amount Per Serving	
Proprietary Blend	1.5 mL*
Yarrow flower extract,	
Calycophyllum spruceanum bark extract, Blackberry leaf extract	

\*Daily Value not established

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

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