



Botany/Ethnobotany

The alchemist plant, *Alchemilla spp.* belongs to the Rose family (Roseaceae). It's believed that the water droplets that form on its leaves (probably due to dew, de-wetting, trichomes, or hydathodes/guttation) was pure, magical water. Folk medicine suggests that *Alchemilla spp.* helped regulate women's health. Most *Alchemilla spp.* will have palmate veined leaves.



Plant of the Month

By Kyle Roath, Alkemist Labs
 \\NAS\station15\Plant of the Month\



Alchemilla spp.

Plant Part: aerial part

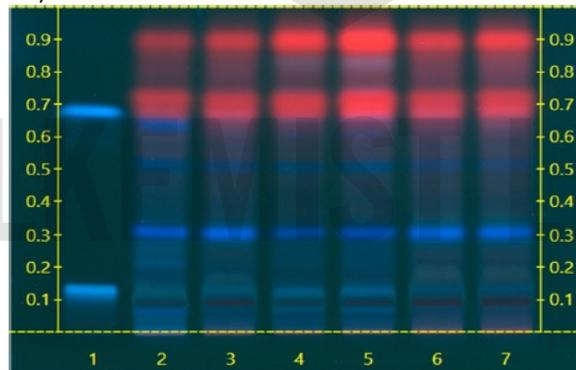
Sample Preparation: 0.3g+3mL Methanol, sonicate/heat at 50°C for 30 min.

Stationary Phase: Silica gel 60, HPTLC plates

Mobile Phase: ethyl acetate: Formic Acid: Water [8.4/0.4/0.4]

Detection: (1) UV 366 nm

(2) Natural Product + Polyethylene Glycol, 366nm (Reich, E., 2007)

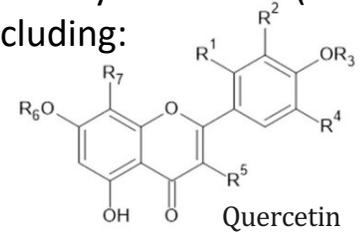
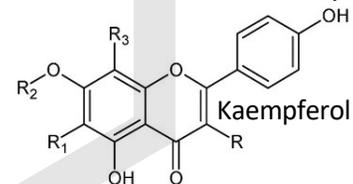


Pharmacology

It's suggested that *Alchemilla spp.* have properties that helps the skin. *Alchemilla* extracts are rich in polyphenols with antioxidant properties. These polyphenols neutralize free radicals & fights against oxidative stress related to the skin. Extracts contain tannins that can sooth irritation. These extracts also showed anti-microbial efficacy against Gram-positive bacteria (*S. aureus* & *C. acnes*).

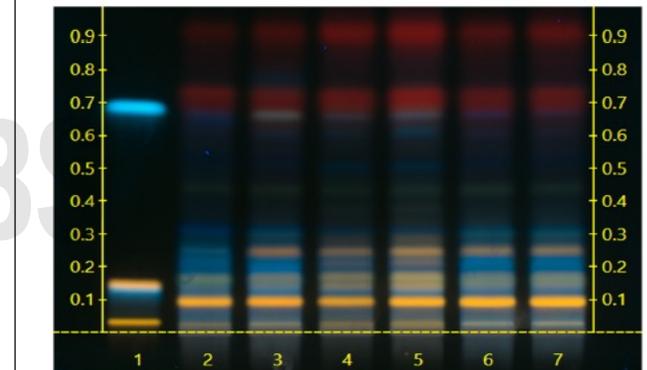
Chemistry

Plants of the Roseaceae family are known to be rich in polyphenols/phenolic compounds. *Alchemilla spp.* contains many flavonoids (as flavonols & flavones) including:



Reference Standard: Lane 1(2μl) Chlorogenic Acid (11 1026/0, XSYN), Caffeic acid (1117/0, XSYN), Hyperoside (28 0702/0, XSYN), Rutin (A0348926, ACR), Methanol (0000206697, BDH)

Conclusions: Lanes 4, 5 are the test sample Lady's Mantle (6850-07). Lanes 2, 3, 6, 7, are the reference samples used for comparison.



References

1. Image: <https://www.herbalreality.com/herb/ladys-mantle/>

Botany Section:

1. Image: <https://gobotany.nativeplanttrust.org/species/alchemilla/monticola/>
2. https://en.wikipedia.org/wiki/Alchemilla_mollis#cite_note-7
3. <https://www.theguardian.com/lifeandstyle/2017/aug/19/aly-fowler-alchemilla-ladys-mantle>
4. <https://www.cabdigitallibrary.org/doi/pdf/10.5555/20210137824>
5. <https://en.wikipedia.org/wiki/Alchemilla>
6. Image: <https://botany.one/2012/08/plant-names-alchemy-and-alchemilla/>

Pharmacology Section:

1. <https://pmc.ncbi.nlm.nih.gov/articles/PMC12029372/>

Chemistry Section:

1. <https://pmc.ncbi.nlm.nih.gov/articles/PMC9609838/>