

Study	Kumer et al. (2022)	G. Singh et al. (2008)	Nam et al. (2022)	Nam et al. (2022)	Tarfaoui et al. (2022)
Extraction Method	Hydro-distillation	Hydro-distillation	Raw Ginger Juice	Ginger Tea from dried ginger powder + H2O	Hydro-distillation
Plant Part	Fresh Rhizomes	Fresh Rhizomes	Fresh Rhizomes	Dried Rhizomes	Dried Rhizomes
Origin	Nepal	Local market in Gorakhpur, India	Jeollabuk-do Province, South Korea	Jeollabuk-do Province, South Korea	Country of origin: China
Compound					
Neral	8.28	7.4	7.34%	ND	4.06
Camphene	8.91	3	7.43%	2.23%	3.29
Borneol	1.58	2.1	2.71%	6.18%	1.8
1,8-Cineole	2.38	1.9	0.00%	8.45%	6
Linalool	1.33	0.9	1.70%	ND	0.6
β -Phellandrene	7.54	1.4	0.59	ND	-
Bornyl acetate	0.3	0.3	1.32%	1.78%	-
Zingiberenol	-	1.7	3.82%	8.79%	1.95
trans-Nerolidol	-	1.5	2.46%	ND	0.38
α -Zingiberene	13.66	9.5	-	-	22.18
Geranial	12.63	25.9	-	-	5.13
β -Sesquiphellandrene	5.32	5.1	-	-	11.05
ar-Curcumene	4.36	6.6	-	-	8.4
(E,E)- α -Farnesene	4.46	7.6	-	-	-
α -Pinene	3.03	0.8	-	-	1.23
Citronellal	-	0.7	3.62%	3.76%	-
Geraniol	1.88	3.4	-	-	-
Geranyl acetate	2.3	0.6	-	-	-
Limonene	1.6	0.5	-	-	-
Myrcene	1.52	0.5	-	-	-
β -Bisabolene	2.78	-	-	-	4.96
Cubebanol	-	-	6.99%	11.15%	-
β -Acorenol	-	-	1.94%	4.63%	-
Citral	-	-	8.64%	3.87%	-
α -Funebrene	-	-	8.60%	10.66%	-
α -Himachalene	-	-	3.01%	9.24%	-
Sulcatone	-	-	9.08%	4.65%	-
Zingerone	-	-	2.85%	ND	-
[6]-Gingerone	-	-	0.29%	0.64%	-
[6]-Shogaol	-	-	0.00%	0.93%	-

Myoga (*Singiber mioga*)

Study	Lee et al. (2007)	Kurobayashi et al. (1991)
Extraction Method	Steam distillation	Hydro-distillation
Plant Part	Young buds	Young buds
Origin	Gwangju, Korea	Gumma Prefecture (Japan)
Compound		
α -Pinene	6.85	3.34
β -Pinene	16.55	10.6
α -Phellandrene	1.39	1.92
β -Phellandrene	11.67	26.6
(E)-Ocimene	-	2.35
Gamma-Elemene	-	1.29
β -Elemene	0.07	21.1
Caryophyllene	-	1.03
γ -Elemene	-	1.01
α -humulene	-	1.06
Limonene	1.55	2.77
Sabinene	7.15	-
p-Cymene	1.7	-
4R-Limonene	1.55	-
1,4-terpineol	4.52	-
Cryptone	4.07	-
Bornyl acetate	1.78	-

General aroma compounds

The pungent principle of myoga flower buds was identified as (E)-8 β (17)-epoxylabd-12-ene-15,16-dial (miogadial) and 2-alkyl-3-methoxy-pyrazine. These however do not show up on the GCMS Results of many of the studies, though it may also not be tested for, or it may be interpreted differently (Abe et al. 2002) (Abe et al. 2004).

photo by: Shutterstock/
SUCHARUT CHOUNYOO



Studies

Abe, M., Ozawa, Y., Uda, Y., Yamada, Y., Morimitsu, Y., Nakamura, Y., & Osawa, T. (2002). Labdane-type diterpene dialdehyde, pungent principle of myoga, *Zingiber mioga* Roscoe. *Bioscience, biotechnology, and biochemistry*, 66(12), 2698-2700. Retrieved from: https://www.jstage.jst.go.jp/article/bbb/66/12/66_12_2698/_pdf

Abe, M., Ozawa, Y., Uda, Y., Yamada, F., Morimitsu, Y., Nakamura, Y., & Osawa, T. (2004). Antimicrobial activities of diterpene dialdehydes, constituents from myoga (*Zingiber mioga* Roscoe), and their quantitative analysis. *Bioscience, biotechnology, and biochemistry*, 68(7), 1601-1604. <https://www.tandfonline.com/doi/pdf/10.1271/bbb.68.1601>

Lee, J. W., Chon, S. U., Han, S. K., Ryu, J., & Choi, D. G. (2007). Effects of Antioxidant and Flavor Components of *Zingiber mioga* Rosc. *Korean Journal of Medicinal Crop Science*, 15(3), 203-209. Retrieved from: https://www.researchgate.net/profile/Sang-Uk-Chon/publication/264021188_Effects_of_Antioxidant_and_Flavor_Components_of_Zingiber_mioga_Rosc

Kurobayashi, Y., Sakakibara, H., Yanai, T., Yajima, I., & Hayashi, K. (1991). Volatile Flavor Compounds of Myoga (*Zingiber Mioga*). *Agricultural and biological chemistry*, 55(6), 1655-1657. Retrieved from: https://www.jstage.jst.go.jp/article/bbb1961/55/6/55_6_1655/_pdf

Myoga