

Table S1. Monoterpenes chemical structures with anti-inflammatory activity.

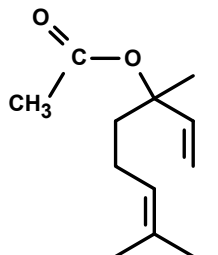
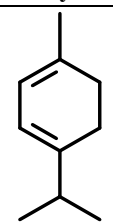
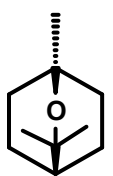
	Experimental protocol	Anti-inflammatory activity and/or mechanism	Animal tested	Reference
 Linalyl acetate	In vitro assay with blood mononuclear cells	Immunomodulation NKCA lymphocyte activation (CD69 expression)	Human	[6]
 α-Terpinene	Popliteal lymph node assay	Immunostimulatory activity	Rat	[7]
	COX-2 assay	Inhibition of COX-2 activity	Ovine	[79]
 1,8-Cineole	Carrageenan-induced paw edema; Cotton pellet-induced granuloma	Reduced paw edema; Reduced granuloma tissue weight	Wistar rat	[13]
	TNBS-induced colitis	Reduced MPO activity	Wistar rat	[17,19,20]
	Bronchial asthma patients	Mucolytic and steroid-saving effect	Human	[21]
	IL-1β and LPS-stimulated mediator production	Reduced TNF-α, IL-1β, LTB4, tromboxane B2 and PGE2 production	Human	[22]

Table S1. Cont.

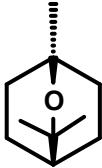
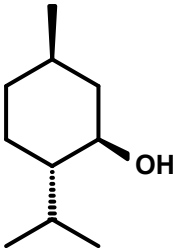
	Experimental protocol	Anti-inflammatory activity and/or mechanism	Animal tested	Reference
 1,8-Cineole	Lymphocytes; LPS-stimulated monocytes	Reduced TNF- α , IL-1 β , IL-4, IL-5, IL-6 and IL-8 production	Human	[23]
	OVA-sensitization	Reduced airway inflammation; Reduced TNF- α and IL-1 β production; Reduced MPO activity in BALF	Guinea pig	[24]
	<i>Gardnerella vaginalis</i> —induced vaginosis; Vulvovaginal candidiasis	Reduced number of <i>G. vaginalis</i> and <i>Candida albicans</i> ; Reduced MPO activity; Reduced TNF- α , IL-1 β , IL-6, COX-2, iNOS and NF-kB activation; Increased IL-10 expression	Mice	[27]
	TCDD-induced toxicity	Elimination of TCDD-induced immune suppressive effects; Reduced CD8+; Increased CD3+, CD4+, CD161+, CD4+CD25+ and total lymphocytes	Rat	[29]
 l-Menthol	LPS-stimulated monocytes	Reduced IL-1 β , LTB4, and PGE2 production	Human	[15]
	PCA-model	Anti-allergic rhinitis	Guinea pig	[30]
	Type I allergic reaction	Reduced histamine release	Rat mast cell	[31]

Table S1. Cont.

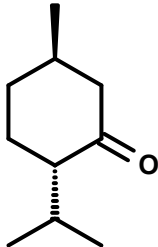
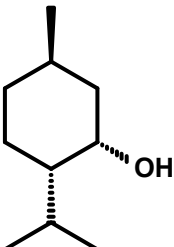
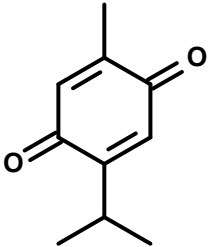
	Experimental protocol	Anti-inflammatory activity and/or mechanism	Animal tested	Reference
 Menthone	PCA-model	Anti-allergic rhinitis	Guinea pig	[30]
	Type I allergic reaction	Reduced histamine release	Rat mast cell	[31]
 Neomenthol	Type I allergic reaction	Reduced histamine release	Rat mast cell	[31]
 Thymoquinone	OVA-sensitization	Reduced production of PGD2, COX-2, IL-4, IL-5, IL-13, IgE and IgG1	Balb/c mice	[37,43]
	Freund's incomplete adjuvant-induced arthritis	Reduced TNF- α and IL-1 β production	Sprague-Dawley rat	[46]
	STZ-induced gestational diabetes	Increased IL-2 production; Increased number of T cells (offspring)	Wistar Rat	[47]

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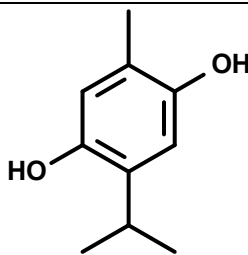
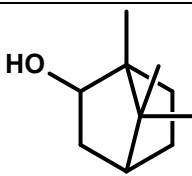
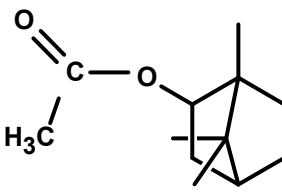
	Experimental protocol	Anti-inflammatory activity and/or mechanism	Animal tested	Reference
 Thymohydroquinone	COX-1 and COX-2 assays	Modulatory response; Reduced COX-1 and COX-2 expression		[48]
 Borneol  Bornyl acetate	Type I allergic reaction	Reduced histamine release	Rat mast cell	[50]
	Focal cerebral ischemia reperfusion	Reduced ICAM-I, TNF- α and IL-1 β production; Reduced number of neutrophils	Rat	[53]
	TNBA-induced colitis	Reduced IL-6 and IL-1 β mRNA expression	Mice	[49]
	LPS-induced abortion	Anti-abortion effect; Reduced number of CD4 and T lymphocytes, macrophages; Reduced rate of CD4+/CD8+; Increased IL-10 production; Reduced IFN γ and IL-4 production	Mice	[57–59]

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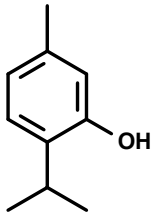
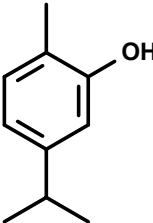
	Experimental protocol	Anti-inflammatory activity and/or mechanism	Animal tested	Reference
 Thymol	fMLP-stimulated neutrophils	Reduced release of elastase; Calcium channel inactivation	Human	[60]
	Carrageenan-induced paw edema; Carrageenan-induced peritonitis	Reduced paw edema; Reduced MPO activity; Reduced leukocyte influx	Rat and mice	[63]
 Carvacrol	Cell-based transfection assays	Suppression of Cox-2 expression; Activation of PPAR α and γ	Bovine arterial endothelial cells	[70]
	LPS-induced COX-2 expression	Inhibition of COX-2 mRNA	Human macrophage-like U937 cells	[70]
	Stress protein expression (T cell specific)	Immunoregulation; Amplified T cell response to Hsp 70; Promotion of T cell recognition of Hsp 70; Increased number of CD4+CD25+FoxP3+ T cells	Mice: Peyer's patches; Hsp70-specific T cell hybridoma	[67]

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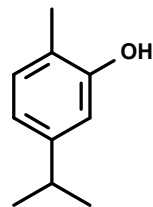
	Experimental protocol	Anti-inflammatory activity and/or mechanism	Animal tested	Reference
 Carvacrol	High-fat diet	Attenuation of pro-inflammatory cytokines; Inhibition of TLR2 and TLR4-mediated signaling	C57BL/6N mice (visceral adipose tissue)	[71]
	Blood lymphocytes	Inhibition of lymphocyte proliferation; Annexin-V binding and caspase-3 activation	Porcine	[72]
	Carrageenan-induced pleurisy and paw edema; LPS-induced nitric production	Suppressed recruitment of leukocytes; Reduced TNF- α level and nitrite production	Mice; Murine macrophages	[73]
	Histamine, dextran and substance P-induced paw edema; TPA and arachidonic acid-induced ear edema; Acetic acid-induced gastric lesion	Reduced paw and ear edema; Reduced gastric lesion	Rat and mice	[75]

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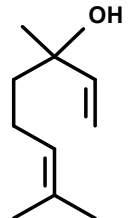
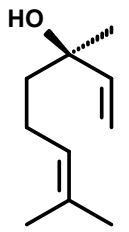
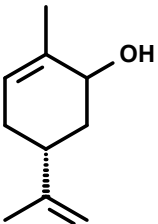
	Experimental protocol	Anti-inflammatory activity and/or mechanism	Animal tested	Reference
 Linalool	CFA-induced edema	Reduced mechanical hypersensitivity and paw edema	Mice	[76]
	Carrageenan-induced paw edema	Reduced paw edema	Wistar rat	[77]
 (-)-Linalool	Carrageenan-induced paw edema	Reduced paw edema	Wistar rat	[77]
 Carveol	COX-2 assay	Inhibition of COX-2 activity	Ovine	[78]

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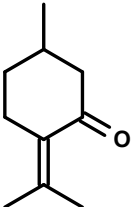
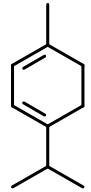
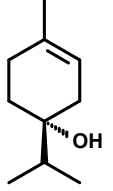
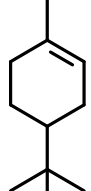
	Experimental protocol	Anti-inflammatory activity and/or mechanism	Animal tested	Reference
 Pulegone	COX-2 assay	Inhibition of COX-2 activity	Ovine	[78]
 α-Terpinene  Terpinene-4-ol	COX-2 assay	Inhibition of COX-2 activity	Ovine	[78]
	Induced ear edema	Inhibited edema formation	Rats	[79]
	COX-2 assay	Inhibition of COX-2 activity	Ovine	[78]
	LPS-activated peripheral blood monocytes	Reduced TNF-α, IL-1β, IL-8 and PGE2 production	Human	[80]
 α-Terpineol	<i>Gardnerella vaginalis</i> - induced vaginosis; Vulvovaginal candidiasis	Reduced number of <i>G. vaginalis</i> and <i>Candida albicans</i> ; Reduced MPO activity; Reduced TNF-α, IL-1β, IL-6, COX-2, iNOS and NF-kB activation; Increased IL-10 expression	Mice	[27]
	COX-2 assay	Inhibition of COX-2 activity	Ovine	[78]
	Epithelial buccal cells	Suppressed IL-6 production; Increased IL-10 production	Human; macrophage	[103]

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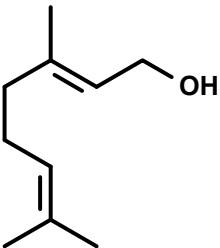
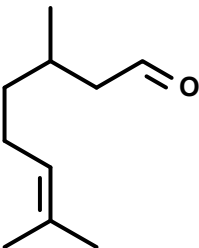
	Experimental protocol	Anti-inflammatory activity and/or mechanism	Animal tested	Reference
 Geraniol	Lymphocyte proliferation assay; Cardiac allograft transplant model	Inhibition of lymphocyte proliferation; Prolonged graft survival	Rat	[81]
	Bacterial-induced inflammation	Reduced levels of inflammatory markers	Raw 264.7 macrophages	[82,83]
	LPS-induced NO and PGE2 production; LPS-induced COX-2 expression	Reduced iNOS mRNA expression; Reduced iNOS enzymatic activity; Reduced COX-2 mRNA expression; Activated PPAR α and γ	Raw 264.7 macrophages	[84,85]
	Neutrophil activation	Reduced TNF- α -induced neutrophil adherence	Human	[87]
	LPS-induced NO production	Suppressed NO synthesis	Murine raw 264.7 macrophages	[88]
 Citronellal	LPS-induced NO and PGE2 production; LPS-induced COX-2 expression	Reduced iNOS mRNA expression; Reduced iNOS enzymatic activity; Reduced COX-2 mRNA expression; Activated PPAR α and γ	Raw 264.7 macrophages	[84,85]
	LPS-induced NO production	Suppressed NO synthesis	Murine raw 264.7 macrophages	[88]

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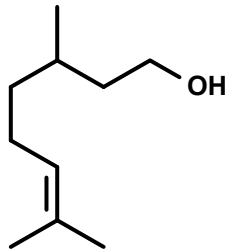
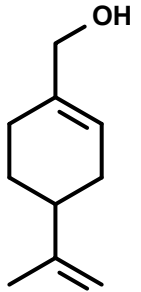
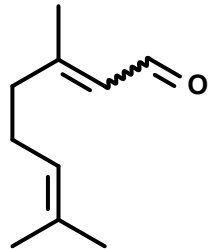
	Experimental protocol	Anti-inflammatory activity and/or mechanism	Animal tested	Reference
 Citronellol	Neutrophil activation	Reduced TNF- α -induced neutrophil adherence	Human	[87]
 Perillyl alcohol	DMBA-initiated and TPA-promoted skin tumorigenesis	Inhibited ODC activity; Reduced thymidine incorporation; Inhibitor of RAS/Raf/ERK pathway	Mice	[91]
 Citral	Neutrophil activation	Reduced TNF- α -induced neutrophil adherence	Human	[87]
	Paw edema ; Carrageenan-induced leukocyte migration	Reduced paw edema and leukocyte migration	Rat	[95]
	LPS-induced NO production	Reduced NO production and iNOS expression; Suppressed NF- κ B activation	Raw 264.7 macrophages	[96]

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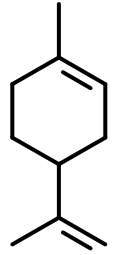
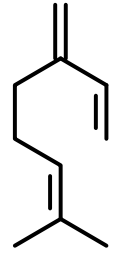
	Experimental protocol	Anti-inflammatory activity and/or mechanism	Animal tested	Reference
 Limonene	LPS-induced NO and PGE2 production	Inhibited NO and PGE2 production; Reduced iNOS and COX-2 expression; Reduced TNF- α , IL-1 β , and IL-6 production	Raw 264.7 macrophages	[97]
	Eosinophilic leukemia HL-60 clone 15 cells	Suppressed ROS production and chemotaxis in p38 MAPK; Reduced MCP-1 production via NF- κ B activation	Human	[98]
	LPS-induced pleurisy	Reduced cell migration	Mice	[102]
	Epithelial buccal cells	Suppressed NO production; Reduced IFN- γ and IL-4 production; Suppressed IL-6 production; Increased IL-10 production	Human; macrophage	[103]
 Myrcene	LPS-induced pleurisy	Reduced cell migration; Suppressed NO production; Reduced IFN- γ and IL-4 production	Mice	[102]

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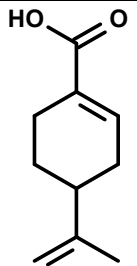
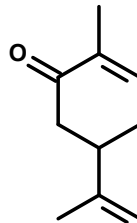
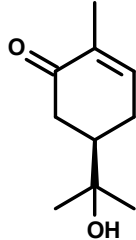
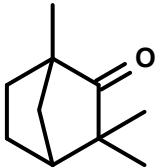
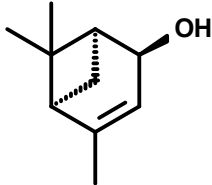
	Experimental protocol	Anti-inflammatory activity and/or mechanism	Animal tested	Reference
 Perillic acid	Immuno assays	Immunostimulatory activity; Increased number of white blood cells and total antibody	Balb/c mice	[105]
 Carvone	Immuno assays	Immunostimulatory activity; Increased number of white blood cells and total antibody	Balb/c mice	[105]
	Neutrophil activation	Reduced TNF- α -induced neutrophil adherence	Human	[87]
 Hydroxydihydrocarvone	Carrageenan-induced paw edema; MPO activity	Reduced paw edema, MPO activity and neutrophil recruitment	Rat	[106]

Table S1. Cont.

	Experimental protocol	Anti-inflammatory activity and/or mechanism	Animal tested	Reference
 Fenchone	Carrageenan-induced paw edema	Reduced paw edema	Rat	[110]
 α-Pinene	Carrageenan-induced paw edema	Reduced paw edema; Reduced mechanical sensitization	Mice	[111]
 cis-Verbenol	Cerebral ischemic-induced injury	Reduced pro-inflammatory cytokines expression	Rodent	[112]