List of supplementary tables about bioactive compounds from coral and its associated microorganisms

Supplementary table S1. Anti-inflammatory compounds from coral

Compounds	Coral	Anti-inflammatory mechanism	Activity values	Ref.
Lobophytone D	*Lobophytum pauciflorum*	Inhibiting LPS-induced NO release	IC_{50} = 4.70 μM	[1]
Flexibilisolide A	*Sinularia* sp.	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 19.4 ± 4.5% at 10 μM	[2]
Flexilarin	*Sinularia* sp.	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 13.8 ± 2.1% at 10 μM	[2]
Gyrosanol A	*Sinularia gyrosa*	Inhibiting LPS-induced COX-2	Inhibition percentage: 19.6 ± 3.9% at 10 μM	[3]
Gyrosanol B	*Sinularia gyrosa*	Inhibiting LPS-induced COX-2	Inhibition percentage: 29.1 ± 9.6% at 10 μM	[3]
Hirsutalin B	*Cladiella hirsuta*	Inhibiting LPS-induced iNOS, COX-2	Reduce iNOS and COX-2 protein to 6.8 ± 0.6% and 49.0 ± 2.3%, respectively at 10 μM	[4]
Hirsutalin C	*Cladiella hirsuta*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 43.6 ± 8.7% at 10 μM	[4]
Hirsutalin D	*Cladiella hirsuta*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 3.3 ± 0.1% at 10 μM	[4]
Hirsutalin H	*Cladiella hirsuta*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 32.3 ± 6.1% at 10 μM	[4]
Cespitularin S	*Cespitularia hypotentaculata*	Inhibiting LPS-induced iNOS, COX-2	Reduce iNOS and COX-2 protein to 52.7 ±3.2% and 78.3 ±0.6%, respectively at 10 μM	[5]
Cespitularin I	*Cespitularia hypotentaculata*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 86.7± 8.4% at 10 μM	[5]
Cespitularin F	*Cespitularia hypotentaculata*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 72.0 ±15.1% at 10 μM	[5]
Klysimplexin R	*Klyxum simplex*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to < 20% and < 50%, respectively at 10 μM	[6]
Klysimplexin S	*Klyxum simplex*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to < 10% and < 40%, respectively at 10 μM	[6]
Klysimplexin J	*Klyxum simplex*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to < 60% at 10 μM	[6]
Klysimplexin K	*Klyxum simplex*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to < 40% at 10 μM	[6]
Klysimplexin L	*Klyxum simplex*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to < 30% at 10 μM	[6]
Klysimplexin M	*Klyxum simplex*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to < 20% at 10 μM	[6]
Klysimplexin N	*Klyxum simplex*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to < 40% at 10 μM	[6]
Ximaolide F	*Lobophytum laevigatum*	Inhibiting TNFα-induced NF-κB transcriptional activation	IC_{50} = 6.9 μM	[7]
Methyl tortuoate B	*Lobophytum laevigatum*	Inhibiting TNFα-induced NF-κB transcriptional activation	IC_{50} = 6.7 μM	[7]
Laevigatol A	*Lobophytum laevigatum*	Inhibiting TNFα-induced NF-κB transcriptional activation	IC_{50} = 9.4 μM	[7]

Laevigatol B	*Lobophytum laevigatum*	Inhibiting TNFα-induced NF-κB transcriptional activation	IC_{50} = 9.7 μM	[7]
Sinularin	*Sinularia triangular* *Sinularia flexibilis*	Inhibiting LPS-induced iNOS and COX-2; Inhibiting LPS-induced NO release and TNF-α	Reduce iNOS protein to 1.2 ± 0.3% at 10 μM; 88.60% inhibition (NO) and 94.20% inhibition (TNF-α) at 10 μM	[8,9]
Dihydrosinularin	*Sinularia triangular*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 5.1 ± 1.6% and 24.9 ± 7.4%, respectively at 10 μM	[8]
(−)14-deoxycrassin	*Sinularia triangular*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 0.9 ± 0.7% and 5.9 ± 1.0%, respectively at 10 μM	[8]
Lobocrassin B	*Lobophytum crassum*	Inhibiting superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	IC_{50} = 4.8 ± 0.7 (superoxide anion) and 4.9 ± 0.4 μM (elastase release)	[10]
Crassarine F	*Sinularia crassa*	Inhibiting LPS-induced COX-2	Reduce COX-2 protein to 65.6 ± 6.2% at 10 μM	[11]
Crassarine H	*Sinularia crassa*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 35.8 ± 10.7% at 10 μM	[11]
Krempfielin B	*Cladiella krempfi*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to < 40% at 10 μM	[12]
Krempfielin C	*Cladiella krempfi*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to < 60% at 10 μM	[12]
Krempfielin D	*Cladiella krempfi*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to nearly 60% at 10 μM	[12]
Litophynol B	*Cladiella krempfi*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to < 40% at 10 μM	[12]
(1*R**,2*R**,3*R**,6*S**,7*S**,9*R**,10*R**,14*R**)-3-butanoyloxycladiell-11(17)-en-6,7-diol	*Cladiella krempfi*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to nearly 10% at 10 μM	[12]
Paraminabeolide B	*Paraminabea acronocephala*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 7.3 ± 1.0% at 10 μM	[13]
Paraminabeolide C	*Paraminabea acronocephala*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 37.9 ± 9.9% at 10 μM	[13]
Paraminabeolide D	*Paraminabea acronocephala*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 43.4 ± 9.5% at 10 μM	[13]
Minabeolide-1	*Paraminabea acronocephala*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 9.6 ± 1.9% and 18.3± 7.2%, respectively at 10 μM	[13]
Minabeolide-2	*Paraminabea acronocephala*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 45.7 ± 7.7% and 51.2 ±11.5%, respectively at 10 μM	[13]
Minabeolide-4	*Paraminabea acronocephala*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 23.2 ± 4.6% and 22.4 ± 9.9%, respectively at 10 μM	[13]
Minabeolide-5	*Paraminabea acronocephala*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 6.3 ± 1.5% and 31.3 ± 10.7%, respectively at 10 μM	[13]

Paraminabeolide A	*Paraminabea acronocephala*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 11.0 ± 7.7% at 10 μM	[13]
Paraminabeolide B	*Paraminabea acronocephala*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 7.3 ± 1.0% at 10 μM	[13]
Paraminabeolide C	*Paraminabea acronocephala*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 37.9 ± 9.9% at 10 μM	[13]
Paraminabeolide D	*Paraminabea acronocephala*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 43.4 ± 9.5% at 10 μM	[13]
Klymollin C	*Klyxum molle*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 42.1 ± 11.5% at 10 μM	[14]
Klymollin D	*Klyxum molle*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 25.1 ± 8.7% at 10 μM	[14]
Klymollin E	*Klyxum molle*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 25.7 ± 8.0% at 10 μM	[14]
Klymollin F	*Klyxum molle*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 6.0 ± 2.6% and 8.5 ± 1.3%, respectively at 10 μM	[14]
Klymollin G	*Klyxum molle*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 5.2 ± 2.5% and 4.4 ± 1.3%, respectively at 10 μM	[14]
Klymollin H	*Klyxum molle*	Inhibiting LPS-induced iNOS	At a concentration of 10 μM, reduce the level of iNOS protein to 32.6 ± 11.8% at 10 μM	[14]
Sarcocrassocolide I	*Sarcophyton crassocaule*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to < 10% and < 60%, respectively at 10 μM	[15]
Sarcocrassocolide F	*Sarcophyton crassocaule*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to < 10% at 10 μM	[15]
Sarcocrassocolide G	*Sarcophyton crassocaule*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to < 10% at 10 μM	[15]
Sarcocrassocolide H	*Sarcophyton crassocaule*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to < 10% at 10 μM	[15]
Sarcocrassocolide J	*Sarcophyton crassocaule*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to < 10% at 10 μM	[15]
Sarcocrassocolide K	*Sarcophyton crassocaule*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to < 10% at 10 μM	[15]
Sarcocrassocolide L	*Sarcophyton crassocaule*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to < 10% at 10 μM	[15]
Sinularioside	*Sinularia* sp.	Inhibiting LPS-induced NO release	58% inhibition at 30 μM	[16]
Cerebroside	*Sinularia* sp.	Inhibiting LPS-induced NO release	16% inhibition at 30 μM	[16]
Scabralin A	*Sinularia scabra*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 39.1 ± 15.9% at 10 μM	[17]
Echinolabdane A	*Echinomuricea* sp.	Inhibiting superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	68.6% and 35.4% inhibition at 10 μM	[18]
6-*epi*-yonarasterol B	*Echinomuricea* sp.	Inhibiting superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	IC_{50} = 2.98 ± 0.29 và 1.13 ± 0.55 μg/mL	[18]
Lochmolin A	*Sinularia lochmodes*	Inhibiting LPS-induced COX-2	Reduce COX-2 protein to 1.7 ± 1.3% at 100 μM	[19]

Lochmolin B	*Sinularia lochmodes*	Inhibiting LPS-induced COX-2	Reduce COX-2 protein to 17.6 ± 2.2% at 100 μM	[19]
Lochmolin C	*Sinularia lochmodes*	Inhibiting LPS-induced COX-2	Reduce COX-2 protein to 32.8 ± 3.2% at 100 μM	[19]
Lochmolin D	*Sinularia lochmodes*	Inhibiting LPS-induced COX-2	Reduce COX-2 protein to 71.3 ± 7.2% at 100 μM	[19]
Crassarosteroside A	*Sinularia crassa*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 12.9 ± 4.3% at 10 μM	[20]
Crassarosteroside C	*Sinularia crassa*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 50.1 ± 6.3% at 10 μM	[20]
Sarcocrassocolide M	*Sarcophyton crassocaule*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 4.2 ± 1.6% and 62.8 ± 22.4%, respectively at 10 μM	[21]
Sarcocrassocolide N	*Sarcophyton crassocaule*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 4.2 ± 1.6% and 52.9 ± 12.8%, respectively at 10 μM	[21]
Sarcocrassocolide O	*Sarcophyton crassocaule*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 4.2 ± 1.6% and 22.7 ± 2.8%, respectively at 10 μM	[21]
Sclerosteroid A	*Scleronephthya gracillimum*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 28.4% and 5.4%, respectively at 10 μM	[22]
Sclerosteroid B	*Scleronephthya gracillimum*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 27.7% and 6.7%, respectively at 10 μM	[22]
Sclerosteroid E	*Scleronephthya gracillimum*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 25.4% and 20.6%, respectively at 10 μM	[22]
8*α*H-3*β*,11-dihydroxy-5*α*,6*α*-expoxy-24-methylene-9,11-secocholestan-9-one	*Sinularia granosa*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 66.1 ± 11.9% and 42.7 ± 16.5%, respectively at 10 μM	[23]
3*β*,11-dihydroxy-5*β*,6*β*-expoxy-24-methylene-9,11-secocholestan-9-one	*Sinularia granosa*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 19.4 ± 2.1% at 10 μM	[23]
Echinoclerodane A	*Echinomuricea* sp.	Inhibiting the superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	68.6% inhibition (superoxide anion) and 35.4% inhibition (elastase) at 10 μg/mL	[24]
6-*epi*-cladieunicellin F	*Cladiella* sp.	Inhibiting the superoxide anion generation in FMLP/CB-induced human neutrophils	IC_{50} = 6.57 ± 0.85 μg/mL	[25]
Flexibilide	*Sinularia* sp.	Inhibition of NF-κB activation	IC_{50} = 5.30 μg/mL	[26]
Capillosanane B	*Sinularia capillosa*	Inhibiting production of TNF-*α*	16% inhibition at 10 μM	[27]
Capillosanane I	*Sinularia capillosa*	Inhibiting production of TNF-*α*	21% inhibition at 10 μM	[27]
(−)-Sinularone A	*Sinularia capillosa*	Inhibiting production of TNF-*α*	23% inhibition at 10 μM	[27]
6-acetoxy litophynin E	*Cladiella krempfi*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 12.8 ± 2.9% at 10 μM	[28]

6-methyl ether of litophynol B	*Cladiella krempfi*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 6.4 ± 0.8% and 52.5 ± 8.0%, respectively at 10 μM	[28]
Scabrolide A	*Sinularia maxima*	Inhibiting LPS-induced IL-12 and IL-6	IC_{50} = 23.52 ± 1.37 and 69.85 ± 4.11 μM	[29]
13-*epi*-scabrolide C	*Sinularia maxima*	Inhibiting LPS-induced IL-12 and IL-6	IC_{50} = 5.30 ± 0.21 and 13.12 ± 0.64 μM	[29]
(22*R*,23*R*,24*R*)-5*α*,8*α*-epidioxy-22,23-methylene-24-methylcholest-6-en-3*β*-ol	*Lobophytum crassum*	Inhibiting TNF*α*-induced NF-κB transcriptional activation	IC_{50} = 3.90 μM	[30]
Ergosterol peroxide	*Lobophytum crassum*	Inhibiting TNF*α*-induced NF-κB transcriptional activation	IC_{50} =7.05 μM	[30]
Sclerosteroid J	*Scleronephthya gracillimum*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 72.8 ± 9.5% and 28.4 ± 4.9%, respectively at 10 μM	[31]
Sclerosteroid K	*Scleronephthya gracillimum*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 28.4 ± 8.4% and 9.0 ± 4.4%, respectively at 10 μM	[31]
Sclerosteroid M	*Scleronephthya gracillimum*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 27.2 ± 9.0% and 11.8 ± 6.8%, respectively at 10 μM	[31]
Sclerosteroid N	*Scleronephthya gracillimum*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 60.3 ± 9.7% and 26.6 ± 10.0%, respectively at 10 μM	[31]
3-methyl-5-(10′-acetoxy-2′,6′,10′-trimethylundecyl)-2-penten-5-olide	*Scleronephthya gracillimum*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 61.8 ± 9.8% and 61.7 ± 8.3%, respectively at 10 μM	[31]
Sinularcasbane B	*Sinularia* sp.	Inhibiting LPS-induced NO release	IC_{50} = 8.3 μM	[32]
Sinularcasbanes E	*Sinularia* sp.	Inhibiting LPS-induced NO release	IC_{50} = 5.4 μM	[32]
Hyperinakin	*Hypericum nakamurai*	Inhibiting LPS-induced NO release	IC_{50} = 20 μM	[33]
3-geranyl-2,4,6-trihydroxybenzophenone	*Hypericum nakamurai*	Inhibiting LPS-induced NO release	IC_{50} = 30 μM	[33]
Paraminabic acid A	*Paraminabea acronocephala*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 63.9 ±6.3% at 10 μM	[34]
Paraminabic acid B	*Paraminabea acronocephala*	Inhibiting LPS-induced iNOS	53.5 ± 8.6% inhibition at 10 μM	[34]
Flexibilisquinone	*Sinularia flexibilis*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to < 50% and nearly 80%, respectively at 10 μM	[35]
Krempfielin K	*Cladiella krempfi*	Inhibiting elastase release in FMLP/CB-induced human neutrophils	45.51 ± 2.69% inhibition at 10 μM	[36]
Krempfielin M	*Cladiella krempfi*	Inhibiting the elastase release in FMLP/CB-induced human neutrophils	27.30 ± 5.42% inhibition at 10 μM	[36]
Klymollin M	*Klyxum molle*	Inhibiting the superoxide anion generation and	IC_{50} = 3.13 ± 0.39 μM (superoxide anion) and 2.92 ±	[37]

		elastase release in FMLP/CB-induced human neutrophils	0.27 μM (elastase)	
Litophynin F	*Cladiella krempfi*	Inhibiting LPS-induced COX-2	Reduce COX-2 protein to 48.1 ± 10.8% 10 μM	[28]
Hirsutalin K	*Cladiella hirsuta*	Inhibiting LPS-induced iNOS	IC_{50} = 9.8 mg/mL	[38]
Sinularianin A	*Sinularia* sp.	Inhibition of NF-κB activation	41.3% inhibition at 10 μg/mL	[39]
Sinularianin B	*Sinularia* sp.	Inhibition of NF-κB activation	29.6% inhibition at 10 μg/mL	[39]
Sinularianin C	*Sinularia* sp.	Inhibition of NF-κB activation	24.3% inhibition at 10 μg/mL	[39]
Sinularianin D	*Sinularia* sp.	Inhibition of NF-κB activation	43.0% inhibition at 10 μg/mL	[39]
Sinularianin E	*Sinularia* sp.	Inhibition of NF-κB activation	30.0% inhibition at 10 μg/mL	[39]
Sinularianin F	*Sinularia* sp.	Inhibition of NF-κB activation	36.1% inhibition at 10 μg/mL	[39]
Lobocrasol A	*Lobophytum crassum*	Inhibiting TNFα-induced NF-κB transcriptional activation	IC_{50} = 6.30 ± 0.42 μM	[40]
Lobocrasol B	*Lobophytum crassum*	Inhibiting TNFα-induced NF-κB transcriptional activation	IC_{50} = 6.63 ± 0.11 μM	[40]
Crassumol E	*Lobophytum crassum*	Inhibiting TNFα-induced NF-κB transcriptional activation	IC_{50} = 9.23± 1.66 μM	[41]
(1*R*,4*R*,2*E*,7*E*,11*E*)- cembra-2,7,11-trien-4-ol	*Lobophytum crassum*	Inhibiting TNFα-induced NF-κB transcriptional activation	IC_{50} = 1.65± 0.2 μM	[41]
Sinumaximol A	*Sinularia maxima*	Inhibiting TNFα-induced NF-κB transcriptional activation	IC_{50} = 21.35 ± 3.21 μM	[42]
Sinumaximol B	*Sinularia maxima*	Inhibiting TNFα-induced NF-κB transcriptional activation	IC_{50} = 29.10 ± 1.54 μM	[42]
Sethukarailin	*Sinularia maxima*	Inhibiting TNFα-induced NF-κB transcriptional activation	IC_{50} = 25.81 ± 1.38 μM	[42]
Sinumaximol G	*Sinularia maxima*	Inhibiting TNFα-induced NF-κB transcriptional activation	IC_{50} = 15.81 ± 2.29 μM	[42]
Yonarolide	*Sinularia maxima*	Inhibiting TNFα-induced NF-κB transcriptional activation	IC_{50} = 25.1 ± 2.58 μM	[42]
5-epinorcembrene	*Sinularia maxima*	Inhibiting TNFα-induced NF-κB transcriptional activation	IC_{50} = 28.19 ± 2.65 μM	[42]
13-*epi*-scabrolide C	*Sinularia maxima*	Inhibiting TNFα-induced NF-κB transcriptional activation	IC50 = 20.13 ± 0.29 μM	[42]
Rumphellol A	*Rumphella antipathies*	Inhibiting superoxide anion generation and elastase release in FMLP/CB-induced human	31.95% inhibition (superoxide anion) and 51.64% inhibition (elastase) at 10 μg/mL	[43]

		neutrophils		
Rumphellol B	*Rumphella antipathies*	Inhibiting superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	42.22% inhibition (superoxide anion) and 42.10% inhibition (elastase) at 10 μg/mL	[43]
Briaviolide E	*Briareum violacea*	Inhibiting superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	34.17 ±0.79% inhibition (superoxide anion) and 26.03 ±9.51% inhibition (elastase) at 10 μg/mL	[44]
Briaviolide I	*Briareum violacea*	Inhibiting superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	28.66 ±1.99% inhibition (superoxide anion) and 28.81 ±6.37% inhibition (elastase) at 10 μg/mL	[44]
Derivative	*Briareum violacea*	Inhibiting the elastase release in FMLP/CB-induced human neutrophils	28.60 ±7.54% inhibition at 10 μg/mL	[44]
Rumphellaoic acid A	*Rumphella antipathies*	Inhibiting the elastase release in FMLP/CB-induced human neutrophils	29.2% inhibition at 10 μg/mL	[45]
Sarcopanol A	*Sarcophyton pauciplicatum*	Inhibiting TNFa/INFc-induced NF-jB transcriptional activation	EC_{50} = 8.27 ± 3.28 μM	[46]
(24*S*)-ergost-1*β*,3*β*,5*α*,6*β*-tetraol-25-monoacetate	*Sarcophyton pauciplicatum*	Inhibiting TNFa/INFc-induced NF-jB transcriptional activation	EC_{50} = 26.07 ± 5.59 μM	[46]
(24*S*)-ergost-25-ene-1*β*,3*β*,5*α*,6*β*-tetraol	*Sarcophyton pauciplicatum*	Inhibiting TNFa/INFc-induced NF-jB transcriptional activation	EC_{50} = 50 μM	[46]
Krempfielin N	*Cladiella krempfi*	Inhibiting the elastase release in FMLP/CB-induced human neutrophils	IC_{50} = 4.94 ± 1.68 μM	[47]
Krempfielin O	*Cladiella krempfi*	Inhibiting the elastase release in FMLP/CB-induced human neutrophils	IC_{50} > 10 μM	[47]
Tortuosene B	*Sarcophyton tortuosum*	Inhibiting the elastase release in FMLP/CB-induced neutrophils	13.7 ± 3.5% inhibition at 10 μM	[48]
Emblide	*Sarcophyton tortuosum*	Inhibiting the elastase release in FMLP/CB-induced neutrophils	29.2 ± 6.1% inhibition at 10 μM	[48]
Sarcocrassocolide R	*Sarcophyton crassocaule*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 1.2% ± 0.3% at 10 μM	[49]
Crassocolide A	*Sarcophyton crassocaule*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 3.5% ± 0.9% and 59.4% ± 21.4%, respectively at 10 μM	[49]
Crassocolide B	*Sarcophyton crassocaule*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 3.2% ± 0.7% at 10 μM	[49]
Crassocolide E	*Sarcophyton crassocaule*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 1.4% ± 0.4% and 32.0% ± 15.3%, respectively at 10 μM	[49]
Sarcocrassocolide P	*Sarcophyton crassocaule*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS protein to 1.3% ± 0.3% at 10 μM	[49]

Sarcocrassocolide Q	*Sarcophyton crassocaule*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS and COX-2 protein to 2.4% ± 0.4% and 58.3% ± 20.5%, respectively at 10 μM	[49]
Crassocolide D	*Sarcophyton crassocaule*	Inhibiting LPS-induced iNOS and COX-2	Reduce iNOS protein to 3.2% ± 0.6% at 10 μM	[49]
Hirsutalin N	*Cladiella hirsuta*	Inhibiting the elastase release in FMLP/CB-induced human neutrophils	31.7 ± 3.2% inhibition at 10 μg/mL	[50]
Krempfielin P	*Cladiella krempfi*	Inhibiting the superoxide anion generation in FMLP/CB-induced human neutrophils	IC_{50} > 10 μM	[47]
Tortuosene A	*Sarcophyton tortuosum*	Inhibiting the superoxide anion generation in fMLP/CB-induced neutrophils	56.0 ± 3.1% inhibition at 10 μM	[48]
Klymollin X	*Klyxum molle*	Inhibiting LPS-induced IL-6	Reduce IL-6 level to nearly 60% at 25 μM	[51]
Krempfielin Q	*Cladiella krempfi*	Inhibiting the superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	5.46 ± 5.19% inhibition (superoxide anion) and 2.99 ± 2.82% inhibition (elastase) at 10 μM	[52]
Krempfielin R	*Cladiella krempfi*	Inhibiting the superoxide anion generation in FMLP/CB-induced human neutrophils	13.17% ± 2.09% inhibition (superoxide anion) and 11.09% ± 5.55% inhibition (elastase) at 10 μM	[52]
Capgermacrene A	*Capnella sp.*	Inhibiting LPS-induced NO release	28.0% and 14.2% inhibition at 10 and 20 μg/mL	[53]
Hirsutalin S	*Cladiella hirsuta*	Inhibition of superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	46.7% ± 8.0% inhibition (elastase) and 5.8% ± 0.8% inhibition (superoxide anion) at 10 μg/mL	[54]
Hirsutalin T	*Cladiella hirsuta*	Inhibition of elastase release in FMLP/CB-induced human neutrophils	19.3% ± 5.6% inhibition at 10 μg/mL	[54]
Hirsutosteroside A	*Cladiella hirsuta*	Inhibition of elastase release in FMLP/CB-induced human neutrophils	IC_{50} = 4.1 ± 0.1 μM	[55]
Sinulerectol A	*Sinularia erecta*	Inhibition of superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	IC_{50} = 2.3 ± 0.4 μM (superoxide anion) and IC_{50} = 0.9 ± 0.1 μM (elastase)	[56]
Sinulerectol B	*Sinularia erecta*	Inhibition of superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	IC_{50} = 8.5 ± 0.3 μM (superoxide anion) and IC_{50} = 3.8 ± 0.6 μM (elastase)	[56]
(*Z*)-N-[2-(4-hydroxyphenyl)ethyl]-3-methyldodec-2-enamide	*Sinularia erecta*	Inhibition of elastase release in FMLP/CB-induced human neutrophils	IC_{50} = 1.0 ± 0.2 μM	[56]
Klyflaccisteroid C	*Klyxum flaccidum*	Inhibition of superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	76.24 ± 5.64% inhibition (superoxide anion) and 88.38 ± 1.19% inhibition (elastase) at 10 μg/mL	[57]

Klyflaccisteroid F	*Klyxum flaccidum*	Inhibition of superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	88.26 ± 3.86% inhibition (superoxide anion) and 104.22 ± 6.55% inhibition (elastase) at 10 μg/mL	[57]
3*β*,11-dihydroxy-9,11-secogorgost-5-en-9-one	*Klyxum flaccidum*	Inhibition of superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	87.00 ± 1.27% inhibition (superoxide anion) and 97.42 ± 7.76% inhibition (elastase) at 10 μg/mL	[57]
Glaucumolide A	*Sarcophyton glaucum*	Inhibition of superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	88.42 ± 3.97% inhibition (superoxide anion) and 88.94 ± 6.96% inhibition (elastase) at 10 μg/mL	[58]
Glaucumolide B	*Sarcophyton glaucum*	Inhibition of superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils; inhibiting LPS-induced iNOS and COX-2	91.75 ± 3.08% inhibition (superoxide anion) and 103.25 ± 1.89% inhibition (elastase) at 10 μg/mL; reduce iNOS and COX-2 protein to 75.9 ± 3.5 and 64.3 ± 6.9%; and 43.4 ± 5.0 and 6.0 ± 3.6% at 10 and 20 μM	[58]
24-methylenecholest-5-ene-3*β*,16*β*-diol-3-O-*α*-L-fucoside	*Sinularia nanolobata*	Inhibition of superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	IC_{50} = 18.6 ± 1.5 μM (superoxide anion) and IC_{50} = 10.1 ± 0.8μM (elastase)	[55]
5*β*,6*β*-epoxy-3*β*,11-dihydroxy-24-methylene9,11-secocholestan-9-one	*Sinularia nanolobata*	Inhibition of superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	IC_{50} = 6.6 ± 0.6 μM (superoxide anion) and IC_{50} = 2.9± 0.5 μM (elastase)	[55]
Columnariol A	*Nephthea columnaris*	Inhibiting LPS-induced iNOS and COX-2	52.26 ± 3.74% and 60.17 ± 7.09% at 50 μM	[59]
Columnariol B	*Nephthea columnaris*	Inhibiting LPS-induced iNOS and COX-2	24.74 ± 0.02% and 49.79 ± 3.56% at 50 μM	[59]
Sinumerolide A	*Sinularia numerosa*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 40.18 ± 6.23% at 10 μM	[60]
7*E*-sinumerolide A	*Sinularia numerosa*	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 31.60 ± 2.15% at 10 μM	[60]
Ximaolide A	*Sarcophyton glaucum*	Inhibiting LPS-induced iNOS	Reduce COX-2 protein to 22.0 ± 6.5% at 20 μM	[58]
Casbane-type diterpenoid 1	*Lobophytum* sp.	Inhibiting the LPS/IFN-γ-induced NO release	IC_{50} = 41.21 μM	[61]
Cembrane diterpenoid 2	*Lobophytum* sp.	Inhibiting the LPS/IFN-γ-induced NO release	IC_{50} = 64.96 μM	[61]
Cembrane diterpenoid 3	*Lobophytum* sp.	Inhibiting the LPS/IFN-γ-induced NO release	IC_{50} = 74.76 μM	[61]
Klyflaccisteroid M	*Klyxum flaccidum*	Inhibition of elastase release in FMLP/CB-induced human neutrophils	79.24 ± 3.21% inhibition at 10 μM	[62]
Klyflaccisteroid K	*Klyxum flaccidum*	Inhibition of superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	67.03 ± 5.26% inhibition (superoxide anion) and 111.14 ± 2.47% inhibition (elastase) at 10 μM	[62]
Pinnisterol A	*Pinnigorgia* sp.	Inhibition of superoxide anion generation and	IC_{50} = 2.33 μM (superoxide anion) and IC_{50} = 3.32 μM	[63]

		elastase release in FMLP/CB-induced human neutrophils	(elastase)	
Pinnisterol C	*Pinnigorgia* sp.	Inhibition of superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	IC_{50} = 2.50 μM (superoxide anion) and IC_{50} = 2.81 μM (elastase)	[63]
Petasitosterone A	*Umbellulifera petasites*	Inhibiting LPS-induced NO release	Reduce NO level to 16.9% at 10 μg/mL	[64]
5*α*-pregna-1,20-dien-3-one	*Umbellulifera petasites*	Inhibiting LPS-induced NO release	Reduce NO level to 0.3% at 10 μg/mL	[64]
Nephthenol	*Lobophytum pauciflorum*	Inhibiting LPS-induced iNOS and COX-2	IC_{50} = 1.52 (iNOS) and 0.43 μM (COX-2)	[65]
Gorgost-5-ene-3*β*-ol	*Lobophytum pauciflorum*	Inhibiting LPS-induced iNOS and COX-2	IC_{50} = 1.0 (iNOS) and 0.29 μM (COX-2)	[65]
Briarenolide ZII	*Briareum* sp.	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 47.2% at 10 μM	[66]
Briarenolide ZVI	*Briareum* sp.	Inhibiting LPS-induced iNOS	Reduce iNOS protein to 55.7% at 10 μM	[66]
Klyflaccisteroid J	*Klyxum flaccidum*	Inhibition of superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	76.35 ± 4.29% inhibition (superoxide anion) and 113.89 ± 2.99% inhibition (elastase) at 10 μM	[67]
(4*S**,5*S**)-4-hydroxy-5-(hydroxymethyl)-2,3-dimethyl-4-pentylcyclopent-2-en-1-one	*Sinularia verruca*	Inhibiting LPS-induced NO release	IC_{50} = 28 μM	[68]
4-hydroxy-4-(ethylpropanoate)-2,3-dimethyl-5-butylcyclopent-2-en-1-one	*Sinularia verruca*	Inhibiting LPS-induced NO release	IC_{50} = 24 μM	[68]
(4*S**,5*S**)-4-hydroxy-5-(ethoxymethyl)-2,3-dimethyl-4-pentylcyclopent-2-en-1-one	*Sinularia verruca*	Inhibiting LPS-induced NO release	IC_{50} = 26 μM	[68]
Locrassumin A	*Lobophytum crassum*	Inhibiting LPS-induced NO release	IC_{50} = 17μM	[69]
Locrassumin G	*Lobophytum crassum*	Inhibiting LPS-induced NO release	IC_{50} = 13μM	[69]
Sarcophytonolide O	*Lobophytum crassum*	Inhibiting LPS-induced NO release	IC_{50} = 8μM	[69]
ent-sarcophine	*Lobophytum crassum*	Inhibiting LPS-induced NO release	IC_{50} = 24μM	[69]
Ketoemblide	*Lobophytum crassum*	Inhibiting LPS-induced NO release	IC_{50} = 12μM	[69]
Nanoculone B	*Sinularia nanolobata*	Inhibiting LPS-induced NO release	Reduce NO level to 32.6% 100 μM	[70]
Nanolobol B	*Sinularia nanolobata*	Inhibiting LPS-induced NO release	Reduce NO level to 8.0% at 100 μM	[70]

Calyculone I	*Sinularia nanolobata*	Inhibiting LPS-induced NO release	Reduce NO level to 2.3% at 100 μM	[70]
Pinnigorgiol A	*Pinnigorgia* sp.	Inhibition of superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	IC_{50} = 4.0 μM (superoxide anion) and IC_{50} = 5.3 μM (elastase)	[63]
Pinnigorgiol B	*Pinnigorgia* sp.	Inhibition of superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	IC_{50} = 2.5 μM (superoxide anion) and IC_{50} = 3.1 μM (elastase)	[63]
Pinnigorgiol C	*Pinnigorgia* sp.	Inhibition of superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	IC_{50} = 2.7 μM (superoxide anion) and IC_{50} = 2.7 μM (elastase)	[63]
Sinubrasolide H	*Sinularia brassica*	Inhibition of elastase release in FMLP/CB-induced human neutrophils	32.4 ± 5.6% inhibition at 10 μM	[71]
Sarelengan B	*Sarcophyton elegans*	Inhibiting the LPS/IFN-γ-induced NO production	IC_{50} =18.2 μM	[72]
Sarelengan C	*Sarcophyton elegans*	Inhibiting the LPS/IFN-γ-induced NO production	IC_{50} = 32.5 μM	[72]
Isofuscol	*Lobophytum varium*	Inhibition of elastase release in FMLP/CB-induced human neutrophils	< 40% inhibition at 10 μM	[73]
(1*R*,2*R*,4*S*,17*R*)-loba-8,10,13(15)-trien-17,18-diol	*Lobophytum varium*	Inhibition of elastase release in FMLP/CB-induced human neutrophils	< 40% inhibition at 10 μM	[73]
Sinubrasolide J	*Sinularia brassica*	Inhibiting the superoxide anion generation in FMLP/CB-induced human neutrophils	32.1 ± 5.3% inhibition at 10 μM	[71]
Sinubrasolide K	*Sinularia brassica*	Inhibiting the superoxide anion generation in FMLP/CB-induced human neutrophils	34.3 ± 6.6% inhibition at 10 μM	[71]
Sinubrasolide L	*Sinularia brassica*	Inhibiting the superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	26.3 ± 0.7% inhibition (superoxide anion) and 25.0 ± 1.3% inhibition (elastase) at 10 μM	[71]
Sinubrasolide A	*Sinularia brassica*	Inhibiting the superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	87.7 ± 5.9% inhibition (superoxide anion) and 113.9 ± 1.8% inhibition (elastase) at 10 μM	[71]
Lobovarol E	*Lobophytum varium*	Inhibiting the superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	20.59 ± 2.15% inhibition (superoxide anion) and 23.07 ± 6.55% inhibition (elastase) at 10 μM	[73]
17,18-epoxyloba-8,10,13(15)-trien-16-ol	*Lobophytum varium*	Inhibiting the superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	28.16 ± 5.06% inhibition (superoxide anion) and 45.34 ± 4.08% inhibition (elastase) at 10 μM	[73]

Lobovarol B	*Lobophytum varium*	Inhibiting the superoxide anion generation in FMLP/CB-induced human neutrophils	22.08 ± 4.71% inhibition at 10 μM	[73]
11-*epi*-sinulariolide acetate	*Sinularia flexibilis*	Inhibiting LPS-induced TNF-*α*	IC_{50} = 2.7 μM	[74]
Sinulariolide	*Sinularia flexibilis*	Inhibiting LPS-induced TNF-*α*	IC_{50} = 4.7 μM	[74]
Flexilarin B	*Sinularia flexibilis*	Inhibiting LPS-induced TNF-*α* and NO	IC_{50} = 4.2 μM (TNF-*α*) and 28.5% inhibition (NO) at 25 μM	[9,74]
Xidaosinularide A	*Sinularia flexibilis*	Inhibiting LPS-induced TNF-*α*	IC_{50} = 38.9 μM	[74]
Sinuladiterpene I	*Sinularia flexibilis*	Inhibiting LPS-induced TNF-*α*	IC_{50} = 13.3 μM	[74]
Sinulaflexiolide L	*Sinularia flexibilis*	Inhibiting LPS-induced NO and TNF-*α*	33.50% inhibition (NO) and 41.50% inhibition (TNF-*α*) at 10 μM	[9]
Sinulaflexiolide M	*Sinularia flexibilis*	Inhibiting LPS-induced NO and TNF-*α*	33.00% inhibition (NO) and 29.20% inhibition (TNF-*α*) at 10 μM	[9]
Sinulaflexiolide N	*Sinularia flexibilis*	Inhibiting LPS-induced NO and TNF-*α*	20.40% inhibition (NO) and 40.00% inhibition (TNF-*α*) at 10 μM	[9]
Sinulaflexiolide O	*Sinularia flexibilis*	Inhibiting LPS-induced NO and TNF-*α*	16.50% inhibition (NO) and 53.90% inhibition (TNF-*α*) at 10 μM	[9]
ent-sinuflexibilin D	*Sinularia flexibilis*	Inhibiting LPS-induced NO and TNF-*α*	21.80% inhibition (NO) and 26.20% inhibition (TNF-*α*) at 10 μM	[9]
Dihydromanaarenolide I	*Sinularia flexibilis*	Inhibiting LPS-induced NO and TNF-*α*	61.2% inhibition (NO) and 63.0% inhibition (TNF-*α*) at 10 μM	[9]
(1*R*,13*S*,12*S*,9*S*,8*R*,5*S*,4*R*)-9-acetoxy5,8:12,13-diepoxycembr-15(17)-en-16,4-olide	*Sinularia flexibilis*	Inhibiting LPS-induced NO and TNF-*α*	22.3% inhibition (NO) and 28.4% inhibition (TNF-*α*) at 10 μM	[9]
Thioflexibilolide A	*Sinularia flexibilis*	Inhibiting LPS-induced NO and TNF-*α*	51.1% inhibition (NO) and 89.4% inhibition (TNF-*α*) at 10 μM	[9]
(−)14-Deoxycrassin	*Sinularia flexibilis*	Inhibiting LPS-induced NO and TNF-*α*	64.5% inhibition (NO) and 93.6% inhibition (TNF-*α*) at 10 μM	[9]
30-isoamylene butyrolactone IV	*Lobophytum michaelae*	Inhibiting LPS-induced NO production	nearly 25.3% inhibition at 20 μM	[75]
Butyrolactone I	*Lobophytum michaelae*	Inhibiting LPS-induced NO production	nearly 25.3% inhibition at 20 μM	[75]
Michosterol A	*Lobophytum michaelae*	Inhibiting superoxide anion generation and elastase release in FMLP/CB-induced human	IC_{50} = 7.1 ± 0.3 μM (superoxide anion) and IC_{50} = 4.5 ± 0.9 μM (elastase)	[76]

		neutrophils		
Michosterol B	*Lobophytum michaelae*	Inhibiting superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	IC_{50} = 7.1 ± 0.3 μM (superoxide anion) and IC_{50} = 4.5 ± 0.9 μM (elastase)	[76]
Michosterol C	*Lobophytum michaelae*	Inhibiting superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	IC_{50} > 10 μM (superoxide anion, elastase)	[76]
14-deoxycrassin	*Sinularia flexibilis*	Inhibiting superoxide anion generation and elastase release in FMLP/CB-induced human neutrophils	IC_{50} = 10.8 ± 0.38 (superoxide anion) and IC_{50} = 11.0 ± 1.52 μM (elastase) at 10 μM	[77]

Supplementary table S2. Cytotoxic compounds from coral

Compound	Coral species	Target cell lines	Activity value	Ref.
Hirsutalin A	*Cladiella hirsuta*	Hep3B, A549, Ca9-22	IC_{50} = 29, 28, 35 μM	[4]
Hirsutalin F	*Cladiella hirsuta*	HepG2, Hep3B, MCF-7	IC_{50} = 29, 29, 32 μM	[4]
Hirsutalin E	*Cladiella hirsuta*	Hep3B, MDA-MB-231, MCF-7, A549, Ca9-22	IC_{50} = 14, 41, 35, 34, 34 μM	[4]
3,4-epoxy-nephthenol acetate	*Nephthea* sp.	SF-268, MCF-7, H460	GI_{50} > 100 μM	[78]
Decaryiol	*Nephthea* sp.	SF-268, MCF-7, H460	GI_{50} > 100 μM	[78]
15-hydroxy-cembrenene	*Nephthea* sp.	SF-268, MCF-7, H460	GI_{50} > 100 μM	[78]
2-hydroxy-nephthenol	*Nephthea* sp.	SF-268, MCF-7, H460	GI_{50} > 100 μM	[78]
Nephthenol	*Nephthea* sp.	SF-268, MCF-7, H460	GI_{50} > 100 μM	[78]
Arachidonic acid	*Nephthea* sp.	SF-268, MCF-7, H460	GI_{50} > 100 μM	[78]
Lobophytene	*Lobophytum* sp.	A549, HT-29	IC_{50} = 8.2, 5.6 μM	[79]
(1*S*,2*S*,3*E*,7*E*,11*E*)-3,7,11,15-cembratetraen-17,2-olide	*Lobophytum* sp.	A549, HT-29	IC_{50} = 5.1, 1.8 μM	[79]
Diepoxycembrane A	*Sinularia facile*	HepG2	IC_{50} = 12.9 μg/mL	[80]
Lobatrienolide	*Lobophytum compactum*	A549, HL-60	IC_{50} = 23.03 ± 0.76, 24.79 ± 0.77 μM	[81]
3*β*,11-dihydroxy-24-methylene-9,11-secocholestan-5-en-9-one	*Lobophytum compactum*	A549, HL-60	IC_{50} of 4.97 ± 0.06, 17.80 ± 1.43 μM	[81]
(24*S*)-ergostane-3*β*,5*α*,6*β*,25-tetraol25-monoacetate	*Lobophytum compactum*	A549, HL-60	IC_{50} = 42.76 ± 2.85 μM	[81]
Lobocompactol A	*Lobophytum compactum*	HL-60	IC_{50} = 48.24 ± 1.33 μM	[81]
Lobocompactol B	*Lobophytum compactum*	HL-60	IC_{50} = 37.51 ± 0.38 μM	[81]
(24*S*)-ergostane-3*β*,5*α*,-6*β*,25-tetraol	*Lobophytum compactum*	HL-60	IC_{50} = 59.06 ± 2.31 μM	[81]
Lobatriene	*Lobophytum compactum*	A549, HL-60	IC_{50} = 31.13 ± 0.08, 33.82 ± 0.27 μM	[81]
Lobocrassin A	*Lobophytum crassum*	K562, CCRF-CEM, Molt4, HepG2, Huh7	IC_{50} = 15.39, 5.33, 11.86, 32.16, 26.13 μg/ml	[10]
Lobocrassin B	*Lobophytum crassum*	K562, CCRF-CEM, Molt4, HepG2, Huh7	IC_{50} = 2.97, 0.48, 0.34, 3.44, 8.17μg/ml	[10]
Lobocrassin C	*Lobophytum crassum*	K562, CCRF-CEM, Molt4, HepG2, Huh7	IC_{50} = > 40, 11.55, 9.51, > 40, 39.77μg/mL	[10]
Lobocrassin D	*Lobophytum crassum*	K562, CCRF-CEM, Molt4, HepG2, Huh7	IC_{50} = 24, 10.53, 10.99, 34.91, > 40 μg/ml	[10]
Paraminabeolide A	*Paraminabea acronocephala*	HepG2	IC_{50} = 8.0 μM	[13]

Minabeolide-1	*Paraminabea acronocephala*	HepG2, MCF-7	IC_{50} = 5.2, 18.7 μM	[13]
Paraminabeolide B	*Paraminabea acronocephala*	MDA-MB-231, MCF-7	IC_{50} = 19.3 and 14.9 μM	[13]
(1*R**,2*R**,3*R**,6*S**,7*S**,9*R**,10*R**,14*R**)-3-butanoyloxycladiell-11(17)-en-6,7-diol	*Cladiella krempfi*	A549, BT483, SAS	ED_{50} = 15.8 ± 2.0, 8.5 ± 1.0, 14.3 ± 1.8 μg/mL	[12]
Litophynol B	*Cladiella krempfi*	H1299, BT483	ED_{50} = 18.1 ± 1.5, 13.2 ± 1.1 μg/mL	[12]
13-acetoxysarcocrassolide	*Sarcophyton crassocaule*	BFTC	Reduce the population of BFTC nearly 50% and < 30% at 1.5 and 3 μg/mL	[82]
7*β*-acetoxy-8*α*-hydroxydeepoxysarcophine	*Sarcophyton glaucum*	HepG2, HCT-116, HeLa	IC_{50} = 3.6, 2.3, 6.7 μg/mL	[83]
(−)14-deoxycrassin	*Sinularia triangular*	CCRF-CEM, DLD-1	ED_{50} = 29.8, 32.2 μM	[8]
Sinularin	*Sinularia triangular*	CCRF-CEM, DLD-1	ED_{50} = 26.0, 37.1 μM	[8]
12*β*,16*β*,20-trihydroxycholesta-1,4-dien-3-one-16-acetate	*Sinularia* sp.	MCF-7, Bel-7402, HeLa	IC_{50} = 3.82, 14.47, 21.97 μg/mL	[84]
24-methyl-12*β*,16*β*,20-trihydroxycholesta-1,4-dien-3-one	*Sinularia* sp.	MCF-7, Bel-7402, HeLa	IC_{50} = 14.81, 45.05, 69.94 μg/mL	[84]
Culobophylin B	*Lobophytum crassum*	HL60, DLD-1, HCT-116	IC_{50} = 6.8, 16.2, 16.7 μg/mL	[85]
Culobophylin A	*Lobophytum crassum*	HL60, MDA-MB-231, DLD-1, HCT-116	IC_{50} = 3.0, 16.8, 4.6, 16.3 μg/mL	[85]
Capilloquinol	*Sinularia capillosa*	P-388	ED_{50} = 3.8 μg/mL	[86]
Emblide	*Lobophytum laevigatum*	HL-60	IC_{50} = 38.8 μM	[7]
(+)-sarcophine	*Lobophytum laevigatum*	HL-60	IC_{50} = 34.7 μM	[7]
Ximaolide F	*Lobophytum laevigatum*	HL-60, A549, HCT-116	IC_{50} = 9.0, 28.4, 16.4 μM	[87]
(22*S*,24*S*)-24-methyl-22,25-epoxyfurost-5-ene-3*β*,20*β*-diol	*Lobophytum laevigatum*	HCT-116	IC_{50} = 6.9 μM	[87]
(24*S*)-ergost-5-ene-3*β*,7*α*-diol	*Lobophytum laevigatum*	HCT-116	IC_{50} = 18.1 μM	[87]
Lobophytosterol	*Lobophytum laevigatum*	HCT-116, A549, HL-60	IC_{50} = 3.2, 4.5, 5.6 μM	[87]
Methyl tortuoate B	*Lobophytum laevigatum*	HL-60, A549, HCT-116	IC_{50} = 25.8, 24.4, 19.7 μM	[7]
Nyalolide	*Lobophytum laevigatum*	HL-60, A549, HCT-116, MCF-7	IC_{50} = 28.1, 28.7, 17.5, 35.5 μM	[7]
Sarcocrassocolide F	*Sarcophyton crassocaule*	Daoy, HEp-2, MCF-7, WiDr	ED_{50} = 7.3 ± 1.7, 15.0 ± 1.9, 19.4 ± 2.4, 18.4 ± 0.9 μM	[15]
Sarcocrassocolide G	*Sarcophyton crassocaule*	Daoy, HEp-2, MCF-7, WiDr	ED_{50} = 8.3 ± 1.4, 16.5 ± 1.7, 9.6 ± 2.7, 18.9 ± 1.9 μM	[15]
Sarcocrassocolide H	*Sarcophyton crassocaule*	Daoy, HEp-2, MCF-7, WiDr	ED_{50} = 6.4 ± 2.0, 13.5 ± 2.5, 9.4 ± 2.5, 18.7 ±	[15]

			1.0 μM	
Sarcocrassocolide I	*Sarcophyton crassocaule*	Daoy, HEp-2, MCF-7, WiDr	ED_{50} = 5.1 ± 1.2, 5.8 ± 0.5, 8.4 ± 1.5, 6.4 ± 2.0 μM	[15]
Sarcocrassocolide J	*Sarcophyton crassocaule*	Daoy, HEp-2, MCF-7, WiDr	ED_{50} > 20 μM	[15]
Sarcocrassocolide K	*Sarcophyton crassocaule*	Daoy, HEp-2, MCF-7, WiDr	ED_{50} = 9.9 ± 4.0, >20, 10.2 ± 1.0, > 20 μM	[15]
Sarcocrassocolide L	*Sarcophyton crassocaule*	Daoy, HEp-2, MCF-7, WiDr	ED_{50} >20 μM	[15]
Asterolaurin L	*Asterospicularia Laurae*	HEp-2, Daoy, MCF-7, WiDr	ED_{50} = 4.12, 6.23, 4.09, 6.08 μg/mL	[88]
Gorgosten-5(*E*')-3*β*-ol	*Heteroxenia ghardaqensis*	Caco-2	IC_{50} = 379.6 μg/mL	[89]
Gorgostan-3*β*,5*α*,6*β*,11*α*-tetraol	*Heteroxenia ghardaqensis*	Caco-2	IC_{50} = 2170.8 μg/mL	[89]
Crassarosterol A	*Sinularia crassa*	HepG2	IC_{50} = 14.9 μM	[20]
Crassarosteroside C	*Sinularia crassa*	HepG2, HepG3	IC_{50} = 17.6 and 18.9 μM	[20]
Echinoclerodane A	*Echinomuricea* sp.	MOLT-4, HL-60, DLD-1, LoVo	IC_{50} = 13.18, 14.89, 23.44, 21.69 μM	[24]
3*β*,11-dihydroxy-5*β*,6*β*-expoxy-24-methylene-9,11-secocholestan-9-one	Sinularia granosa	Daoy, MCF-7	ED_{50} = 7.07 ± 0.71, 9.98 ± 0.32 μg/mL	[23]
8*α*H-3*β*,11-dihydroxy-5*α*,6*α*-expoxy-24-methylene-9,11-secocholestan-9-one	*Sinularia granosa*	HeLa, HEp 2, Daoy, MCF-7	ED_{50} = 8.21 ± 1.61, 6.21 ± 1.38, 5.53 ± 1.58, 4.99 ± 0.70 μg/mL	[23]
Sinularone C	*Sinularia* sp.	A2780, A549, BGC823, Bel7402, HCT-8	IC_{50} > 10 μg/mL	[90]
Sinularone A	*Sinularia* sp.	A2780, A549, BGC823, Bel7402, HCT-8	IC_{50} > 10 μg/mL	[90]
Sinularone B	*Sinularia* sp.	A2780, A549, BGC823, Bel7402, HCT-8	IC_{50} > 10 μg/mL	[90]
Sinularone D	*Sinularia* sp.	A2780, A549, BGC823, Bel7402, HCT-8	IC_{50} > 10 μg/mL	[90]
Sinularone E	*Sinularia* sp.	A2780, A549, BGC823, Bel7402, HCT-8	IC_{50} > 10 μg/mL	[90]
Sinularone F	*Sinularia* sp.	A2780, A549, BGC823, Bel7402, HCT-8	IC_{50} > 10 μg/mL	[90]
Sinularone G	*Sinularia* sp.	A2780, A549, BGC823, Bel7402, HCT-8	IC_{50} > 10 μg/mL	[90]
Sinularone H	*Sinularia* sp.	A2780, A549, BGC823, Bel7402, HCT-8	IC_{50} > 10 μg/mL	[90]
Sinularone I	Sinularia sp.	A2780, A549, BGC823, Bel7402, HCT-8	IC_{50} > 10 μg/mL	[90]
Butenolide	*Sinularia* sp.	A2780, A549, BGC823, Bel7402, HCT-8	IC_{50} > 10 μg/mL	[90]
Ceratosteroid C	*Scleronephthya gracillimum*	HepG2, Hep3B, Ca9-22	IC_{50} = 46.1, 48.8, 44.3 μM	[22]
Ceratosteroid D	*Scleronephthya gracillimum*	HepG2, Hep3B, Ca9-22, A-549, MCF-7	IC_{50} = 36.8, 35.3, 34.7, 46.2, 42.2 μM	[22]
Stereonsteroid E	*Scleronephthya gracillimum*	Ca9-22	IC_{50} = 36.6 μM	[22]
Sclerosteroid H	*Scleronephthya gracillimum*	Hep3B, Ca9-22	IC_{50} = 36.3, 37.9 μM	[22]

Stereosteroid F	*Scleronephthya gracillimum*	Hep3B, Ca9-22	IC_{50} = 32.2, 37.3 μM	[22]
Sclerosteroid A	*Scleronephthya gracillimum*	HepG2 and MDA-MB-23	IC_{50} = 19.5 and 15.8 μM	[22]
Stereonsteroid A	*Scleronephthya gracillimum*	HepG2, Hep3B, Ca9-22	IC_{50} = 45.7, 44.4, 39.3 μM	[22]
Pregnene glycoside	*Scleronephthya gracillimum*	HepG2, Hep3B, Ca9-22	IC_{50} = 32.1, 30.3, 28.4 μM	[22]
Sclerosteroid I	*Scleronephthya gracillimum*	HepG2, Hep3B, Ca9-22, A-549	IC_{50} = 37.4. 31.5, 30.8, 28.9 μM	[22]
Sclerosteroid F	*Scleronephthya gracillimum*	HepG2, Hep3B, Ca9-22, A-549, MCF-7, MDA-MB-231	IC_{50} = 35.6, 29.3, 28.9, 30.6, 38.7, 30.8 μM	[22]
Sclerosteroid G	*Scleronephthya gracillimum*	HepG2, Hep3B, Ca9-22, A-549, MCF-7, MDA-MB-231	IC_{50} = 29.0, 28.1, 27.2, 28.7, 34.1, 28.0 μM	[22]
Stereonsteroid H	*Scleronephthya gracillimum*	HepG2, Hep3B, Ca9-22, A-549, MCF-7, MDA-MB-231	IC_{50} = 28.4, 28.9, 26.9, 29.7, 34.1, 27.8 μM	[22]
Stereonsteroid D	*Scleronephthya gracillimum*	HepG2, Hep3B, Ca9-22, A-549, MCF-7, MDA-MB-231	IC_{50} = 23.5, 26.8, 24.7, 28.9, 31.0, 27.0 μM	[22]
Stereonsteroid G	*Scleronephthya gracillimum*	HepG2, Hep3B, Ca9-22, A-549, MDA-MB-231	IC_{50} = 33.2, 31.2, 28.1, 30.8, 32.0 μM	[22]
Sclerosteroid B	*Scleronephthya gracillimum*	HepG2, MDA-MB-231	IC_{50} = 35.0, 41.3 μM	[22]
Scabralin A	*Sinularia scabra*	MCF-7, WiDr, Daoy, HEpG2	ED_{50} = 9.6, 10.7, 7.6, 13.8 μg/mL	[17]
12(*S*)-hydroperoxylsarcoph-10-ene	*Sarcophyton glaucum*	Inhibiting phase I enzyme cytochrome P_{450} 1A	IC_{50} = 2.7 nM	[91]
8-*epi*-sarcophinone	*Sarcophyton glaucum*	Inhibiting phase I enzyme cytochrome P_{450} 1A	IC_{50} = 3.7 nM	[91]
ent-sarcophine	*Sarcophyton glaucum*	Inhibiting phase I enzyme cytochrome P_{450} 1A	IC_{50} = 3.4 nM	[91]
Alcyonolide	*Cespitularia* sp.	HCT-116	IC_{50} = 5.85 μM	[92]
Five new diterpenoids	*Cespitularia* sp.	HCT-116	IC_{50} = 28.18 to 91.35 μM	[92]
24-methylenecholestane-3*β*,5*α*,6*β*-triol-6-monoacetate	*Sinularia* sp.	Artemia salina, K562	LC_{50} = 0.96 μM, IC_{50} = 3.18 μM	[93]
Michaolide L	*Lobophytum michaelae*	A-549, HT-29, P-388, HEL	ED_{50} = 1.2, 0.8, 0.3, 1.0 μM	[94]
Michaolide M	*Lobophytum michaelae*	A-549, HT-29, P-388, HEL	ED_{50} = 2.0, 4.9, 1.5, 3.2 μM	[94]
Michaolide N	*Lobophytum michaelae*	A-549, HT-29, P-388, HEL	ED_{50} = 2.1, 1.6, 0.4, 2.0 μM	[94]
Michaolide P	*Lobophytum michaelae*	A-549, HT-29, P-388, HEL	ED_{50} = 2.0, 1.5, 1.0, 1.8 μM	[94]
Michaolide Q	*Lobophytum michaelae*	A-549, HT-29, P-388, HEL	ED_{50} = 1.9, 1.4, 0.4, 1.7 μM	[94]
(+)-12-ethoxycarbonyl-11*Z*-sarcophine	*Sarcophyton ehrenbergi*	A549, P-388	IC_{50} = 20.8, 5.8 μg/mL	[95]
Ehrenbergol B	*Sarcophyton ehrenbergi*	A549, P-388	IC_{50} = 10.2, 4.7 μg/mL	[95]
Ehrenbergol A	*Sarcophyton ehrenbergi*	P-388	IC_{50} = 7.4μg/mL	[95]

Nebrosteroid N	*Nephthea chabrolii*	P-388	ED_{50} = 0.9 μg/mL	[96]
Nebrosteroid O	*Nephthea chabrolii*	P-388	ED_{50} = 1.2 μg/mL	[96]
Nebrosteroid P	*Nephthea chabrolii*	P-388	ED_{50} = 1.7 μg/mL	[96]
Sarcophytoxide	*Sarcophyton* sp.	HepG2, Hep3B, MDA-MB-231, MCF-7, A549, Ca9-22	IC_{50} = 16.2, 12.4, 13.2, 13.2, 15.3, 18.9 μg/mL	[97]
Cyclolobatriene	*Lobophytum pauciflorum*	A431	IC_{50} = 0.64 μM	[98]
Eunicol	*Lobophytum pauciflorum*	A431	IC_{50} = 0.35 μM	[98]
Fuscol	*Lobophytum pauciflorum*	A431	IC_{50} = 0.52 μM	[98]
Lobatriene	*Lobophytum pauciflorum*	A431	IC_{50} = 0.41 μM	[98]
3*β*-hexadecanoylcholest-5-en-7*β*-one	*Antipathes dichotoma*	HepG2, WI 38, VERO, MCF-7	IC_{50} = 28.7, 30.5, 28.8, 29.1 μg/mL	[99]
3*β*-hexadecanoylcholest-5-en-7*β*-ol	*Antipathes dichotoma*	HepG2, WI 38, VERO, MCF-7	IC_{50} = 81.2, 82.6, 82.3, 78.2 μg/mL	[99]
Cholest-5-en-3*β*-yl-formate	*Antipathes dichotoma*	HepG2, WI 38, VERO, MCF-7	IC_{50} = 38.1, 31.1, 39.6, 37.4 μg/mL	[99]
Thymidine	*Antipathes dichotoma*	HepG2, WI 38, VERO, MCF-7	IC_{50} = 45.1, 48.2, 20.5, 20.2 μg/mL	[99]
Indole-3-carboxaldehyde	*Antipathes dichotoma*	HepG2, WI 38, VERO, MCF-7	IC_{50} = 70.5, 84.8, 72.4, 77.5 μg/mL	[99]
Sarcocrassocolide M	*Sarcophyton crassocaule*	Daoy, HEp-2, MCF-7, WiDr	ED_{50} = 6.6 ± 0.8, 10.4 ±1.1, 10.6 ± 0.5, >40 μM	[21]
Sarcocrassocolide N	*Sarcophyton crassocaule*	Daoy, HEp-2, MCF-7, WiDr	ED_{50} = 5.2 ± 0.6, 12.3 ± 1.6, 10.1 ± 2.3, 30.1 ± 2.8 μM	[21]
Sarcocrassocolide O	*Sarcophyton crassocaule*	Daoy, HEp-2, MCF-7, WiDr	ED_{50} = 5.0 ± 0.7, 12.4 ± 2.1, 6.4 ± 0.5, >40 μM	[21]
5-episinuleptolide acetate	*Sinularia* sp.	K562, MOLT-4, HTC-11, DLD-1, T-47D, MDA-MB-231	IC_{50} = 0.67, 0.59, 4.09, 0.92, 3.09, 2.95 μg/mL	[100]
Paraminabic acid C	*Paraminabea acronocephala*	Hep3B, MDA-MB-231, MCF-7, A-549	IC_{50}= 2.83, 2.25, 2.23, 2.05 μg/mL	[34]
Krempfielin I	*Cladiella krempfi*	A549, BT483, H1299, HepG2, SAS	ED_{50} = 15.0 ± 3.5, 11.5 ± 1.8, 19.2 ± 4.0, 12.9 ± 3.1, 10.2 ± 3.5 μg/mL	[28]
Litophynin F	*Cladiella krempfi*	A549, BT483, H1299, HepG2, SAS, BEAS2B	ED_{50} = 12.2 ± 1.1, 6.8 ± 0.6, 12.8 ± 1.2, 11.1 ± 0.4, 10.3 ± 0.5, 13.6 ± 0.5 μg/mL	[28]
6-acetoxy litophynin E	*Cladiella krempfi*	A549, BT483, H1299, SAS, BEAS2B	ED_{50} = 6.8 ± 1.0, 11.6 ± 2.8, 6.7 ± 0.7, 8.5 ± 1.3, 9.5 ± 3.7, 4.8 ± 0.7 μg/mL	[28]
6-methyl ether of litophynol B	*Cladiella krempfi*	A549, BT483, H1299, SAS, BEAS2B	ED_{50} = 16.1 ± 1.2, 10.0 ± 1.8, 11.8 ± 1.0, 17.2 ± 0.4, 10.4 ± 0.3 μg/mL	[28]
11-acetylsinuflexolide	*Sinularia flexibilis*	HeLa, HEp-2, MCF-7, MDA-MB-231	IC_{50} = 9.5, 11.3, 17.8, 15.7 μg/mL	[101]
Sinuflexolide	*Sinularia flexibilis*	HeLa, HEp-2, MCF-7, MDA-MB-231	IC_{50} = 8.6, 8.2, 16.0, 11.3 μg/mL	[101]

Sinularin	*Sinularia flexibilis*	HEp-2, MCF-7, MDA-MB-231	IC_{50} = 12.6, 17.5, 13.5 μg/mL	[101]
Sinubrasolide B	*Sinularia brassica*	P388, MOLT 4, HT-29	ED_{50} = 9.1 ± 1.4, 4.8 ± 0.9, 4.8 ± 0.7 Mm	[102]
Sinubrasolide A	*Sinularia brassica*	K562	ED_{50} = 8.7 ± 1.4 μM	[102]
Sinubrasolide E	*Sinularia brassica*	MOLT-4, HT-29	ED_{50} = 9.9 ± 1.8, 7.5 ± 1.5 μM	[102]
Durumolide C	*Sinularia polydactyla*	HepG2	IC_{50} = 1.0 μg/mL	[103]
24-methylcholestane-3*β*,5*α*,6*β*,25-tetrol 25-monoacetate	*Sinularia polydactyla*	HepG2, HCT-116	IC_{50} = 6.1, 8.2 μg/mL	[103]
Sclerosteroid M	*Scleronephthya gracillimum*	HepG2, A549, MDA-MB-231	IC_{50} = 23.3, 21.9, 24.3 μM	[31]
Nephthoacetal	*Nephthea* sp.	HeLa	IC_{50} = 12.3 μg/mL	[104]
(18*S*)-18-*O*-acetyl-nephthoacetal	*Nephthea* sp.	HeLa	IC_{50} = 10.1 μg/mL	[104]
(18*R*)-18-*O*-acetyl-nephthoacetal	*Nephthea* sp.	HeLa	IC_{50} = 19.6 μg/mL	[104]
(12b,22*R*)-12-acetoxy-22-hydroxy-cholesta-1,4-dien-3-one	*Nephthea* sp.	HeLa	IC_{50} = 7.51 ± 0.22 μg/mL	[104]
(12b,22*R*)-12-hydroxy-22-acetoxy-cholesta-1,4-dien-3-one	Nephthea sp.	HeLa	IC_{50} = 7.50 ± 0.31 μg/mL	[104]
(12b, 22R)-12, 22-diacetoxy-cholesta-1,4-dien-3-one	*Nephthea* sp.	HeLa	IC_{50} = 18.48 ± 0.56 μg/mL	[104]
(22*R*)-18, 22-diacetoxy-cholesta-1,4dien-3-one	*Nephthea* sp.	HeLa	IC_{50} = 8.29 ± 0.42 μg/mL	[104]
(20*R*,22*R*)-20-hydroxy-22-acetoxy-cholesta-1,4-dien-3-one	*Nephthea* sp.	HeLa	IC_{50} = 17.25 ± 0.61 μg/mL	[104]
Astrogorgol N	*Nephthea* sp.	HeLa	IC_{50} = 18.72 ± 0.78 μg/mL	[104]
(24*R*)-gorgost-25-en-3*β*,5*α*,6*β*,11*α*-tetraol	*Sarcophyton* sp.	K562	IC_{50} = 9.9 μM	[105]
(24*S*)-23,24-dimethylcholest-22-en-3*β*,5*α*,6*β*,11*α*-tetraol	*Sarcophyton* sp.	K562	IC_{50} = 26.6 μg/mL	[105]
11*α*-acetoxycholest-24-en-1*α*,3*β*,5*α*,6*β*-tetraol	*Sarcophyton* sp.	K562, HL-60	IC_{50} = 10.1, 17.2 μM	[105]
11*α*-acetoxy-cholest-24-en-3*β*,5*α*,6*β*-triol	*Sarcophyton* sp.	K562, HL-60	IC 50 = 9.1, 14.3 μM	[105]
(24*S*)-11*α*-acetoxy-ergost-3*β*,5*α*,6*β*-triol	*Sarcophyton* sp.	K562, HL-60	IC_{50} = 10.3, 12.8 μM	[105]
(24*S*)-ergost-3*β*,5*α*,6*β*,11*α*-tetraol	*Sarcophyton* sp.	K562, HL-60	IC_{50} = 24.5, 32.5 μM	[105]
(23*R*,24*R*,17*Z*)-11*α*-acetoxy-16*β*-methoxy-23,24-dimethylcholest-17(20)-en-	*Sarcophyton* sp.	K562, HL-60, HeLa	IC_{50} = 17.3, 9.3, 17.0 μM	[105]

3*β*,5*α*,6*β*-triol				
(22*E*,24*S*)-11*α*-acetoxy-ergost-22, 25-dien-3*β*,5*α*,6*β*-triol	*Sarcophyton* sp.	K562, HL-60, HeLa	IC_{50} = 6.4, 10.5, 11.5 μM	[105]
(24*R*)-11*α*-acetoxy-gorgost-3*β*,5*α*,6*β*-triol	*Sarcophyton* sp.	K562, HL-60, HeLa	IC_{50} = 9.8, 14.6, 24.7 μM	[105]
(1*R**,3*R**,4*R**,14*R**,7*E*,11*E*)-3,4-epoxycembra-7,11,15(17)-trien-16,14-olide	*Lobophytum* sp.	SGC7901, A549, MCF7, HCT116, B16	IC_{50} = 5.3, 6.1, 3.8, 5.2, 8.6 μg/ml	[106]
(1*R**,7*S**,14*S**,3*E*,11*E*)-7-hydroperoxycembra-3,8(19),11,15(17)-tetraen-16,14-olide	*Lobophytum* sp.	SGC7901, A549, MCF7, HCT116, B16	IC_{50} = 2.7, 3.2, 1.2, 4.5, 2.1 μg/ml	[106]
(1*R**,7*S**,14*S**,3*E*,11*E*)-18-acetoxy-7-hydroperoxycembra-3,8(19),11,15(17)-tetraen-16,14-olide	*Lobophytum* sp.	SGC7901, A549, MCF7, HCT116, B16	IC_{50} = 2.3, 1.8, 2.9, 3.4, 5.6 μg/ml	[106]
Klymollin M	*Klyxum molle*	K562, MOLT-4, T47D	ED_{50} = 7.97 ± 2.55, 4.35 ± 0.63, 8.58 ± 1.72 μM	[37]
24-methylcholesta-5,24-(28)-diene-3*β*,7*β*,19-triol	*Litophyton arboreum*	HeLa, U937	IC_{50} = 8 ± 0.5, 16.4 ± 1.25 μM	[107]
Sarcophytol M	*Litophyton arboreum*	HeLa	IC_{50} = 27.5 ± 0.2 μM	[107]
7*β*-acetoxy-24-methylcholesta-5-24(28)-diene-3,19-diol	*Litophyton arboreum*	HeLa, U937	IC_{50} = 5.3 ± 0.60, 10.6 ± 0.12 μM	[107]
(4-(benzo[d][1,3]dioxol-5-ylmethyl)piperazin-1-yl)(5-((1*E*,5*Z*)-2,6-dimethylocta-1,5,7-trienyl)furan-3-yl)methanone	*Sinularia kavarattiensis*	THP1, DU145	IC_{50} = 15.9, 17.9 μM	[108]
(4-benzhydrylpiperazin-1-yl)(5-((1*E*,5*Z*)-2,6-dimethylocta-1,5,7-trienyl)furan-3-yl)methanone	*Sinularia kavarattiensis*	THP1, DU145	IC_{50} = 17.5, 16.8 μM	[108]
Leptoclalin A	*Sinularia leptoclados*	T47D, K-562	IC_{50} = 15.4, 12.8 μg/mL	[109]
(22*R*,23*R*,24*R*)-5*α*,8*α*-epidioxy-22,23-methylene-24-methylcholest-6-en-3*β*-ol	*Sinularia gaweli*	HL-60	IC_{50} = 12.14 μg/ml	[110]
24-methylenecholestane-1*α*,3*β*,5*α*,6*β*,11*α*-pentol	*Sinularia gaweli*	K562, MOLT-4, HL-60	IC_{50} = 9.71, 6.91, 3.39 μg/ml	[110]
(22*R*,23*R*,24*R*)-5*α*,8*α*-epidioxy-22,23-methylene-24-methylcholest-6,9(11)-dien-3*β*-ol	*Sinularia gaweli*	MOLT-4	IC_{50} = 15.7 μg/ml	[110]

22*α*-acetoxy-24-methylene-3*β*,6*α*,11-trihydroxy-9,11-seco-cholest-7-en-9-one	*Sinularia nanolobata*	P-388	IC_{50} = 10.2 μg/mL	[111]
11-acetoxy-24-methylene-1*β*,3*β*,6*α*-trihydroxy-9,11-seco-cholest-7-en-9-one	*Sinularia nanolobata*	P-388	IC_{50} = 27.8 μg/mL	[111]
5-*epi*-sinuleptolide	*Sinularia nanolobata*	P-388	IC_{50} = 15.7 μg/mL	[111]
Litophynin F	*Cladiella krempfi*	C6	IC_{50} = 46 ± 3 μM	[112]
Litophynol A	*Cladiella krempfi*	C6	IC_{50} = 70-80 μM	[112]
Litophynol A acetate	*Cladiella krempfi*	C6	IC_{50} = 21 ± 2 μM	[112]
Litophynol B	*Cladiella krempfi*	C6	IC_{50} = 70-80 μM	[112]
Philippinlin A	*Lemnalia philippinensis*	HepG2, MDA-MB231, A549	IC_{50} = 16.0, 16.3, 15.8 μg/mL	[113]
7-keto-8*α*-hydroxy-deepoxysarcophine	*Sarcophyton ehrenbergi*	MCF-7	IC_{50} = 192.87 μmol/mL	[114]
7*β*-chloro-8*α*-hydroxy-12-acetoxy-deepoxysarcophine	*Sarcophyton ehrenbergi*	MCF-7	IC_{50} = 68.57 μmol/mL	[114]
(*E*)-methyl-3-(5-butyl-1-hydroxy-2,3-dimethyl-4-oxocyclopent-2-enyl)acrylate	*Sarcophyton ehrenbergi*	MCF-7	IC_{50} = 114.41 μmol/mL	[114]
5*α*-pregna-1,20-dien-3-one	*Scleronephthya flexilis*	MOLT-4, HL-60, K-562	IC_{50} = 2.15, 3.14, 8.32 μg/mL	[115]
Dendronephthol A	*Dendronephthya* sp.	L5187Y	ED_{50} = 8.4 μg/mL	[116]
Dendronephthol C	*Dendronephthya* sp.	L5187Y	ED_{50} = 6.8 μg/mL	[116]
Klymollin W	*Klyxum molle*	CCRF-CEM, Molt-4, T47D	ED_{50} = 9.6, 8.5, 19.9 μg/mL	[51]
Klymollin X	*Klyxum molle*	CCRF-CEM, K562, Molt-4, T47D, DLD-1	ED_{50} = 4.2, 15.0, 16.5, 12.4 μg/mL	[51]
Palustrol	*Sarcophyton trocheliophorum*	Lymphoma and Erlish	LC_{50} = 2.8, 3.11 μM	[117]
Sarcophine	*Sarcophyton trocheliophorum*	Lymphoma and Erlish	LC_{50} = 2.5, 3.79 μM	[117]
Sinulariaoid A	Sinularia sp.	HepG2/ADM	IC_{50} = 9.70 ± 1.77 μM	[118]
Sarcophine	*Sarcophyton auritum*	HepG2 and and MCF-7	IC_{50} = 23 ± 0.12, 22.4 ± 0.22 μg/mL	[119]
2-*epi*-sarcophine	*Sarcophyton auritum*	HepG2 and and MCF-7	IC_{50} = 20.6 ± 0.31, 19.7 ± 0.24 μg/ml	[119]
(+)-7*α*,8*β*-dihydroxydeepoxysarcophine	*Sarcophyton auritum*	HepG2, MCF-7	IC50= 11 ± 0.22, 18.4 ± 0.16 μg/mL	[119]
(1*R*,2*E*,4*S*,6*E*,8*R*,11*R*,12*R*)-2,6-cembradiene-4,8,11,12-tetrol	*Sarcophyton auritum*	HepG2, MCF-7	IC_{50} = 21.1 ± 0.16, 20 ± 0.12 μg/mL	[119]
Trisnorditerpenoid	*Cespitularia* sp.	HCT116	IC_{50} = 6.04 μM	[120]
Diterpenoid	*Cespitularia* sp.	HCT116	IC_{50} = 47.0 μM	[120]
Kelsoenethiol	*Nephthea erecta*	P-388, HT-29	ED_{50} = 1.3, 1.8 μg/mL	[121]

Sinugyrosanolide A	*Sinularia gyrosa*	P-388	EC_{50} = 11.8 μM	[122]
Sarcophytolol	*Sarcophyton glaucum*	HepG2	IC_{50} = 20 μM	[123]
Sarcophytolide C	*Sarcophyton glaucum*	HepG2, MCF-7	IC_{50} = 20, 29 μM	[123]
10(14)-aromadendrene	*Sarcophyton glaucum*	HepG2, PC-3	IC_{50} = 20, 9.3 μM	[123]
Sarcophytolide B	*Sarcophyton glaucum*	MCF-7	IC_{50} = 25 μM	[123]
Hirsutalin E	*Cladiella hirsuta*	A549	IC_{50} = 37.2 μM	[50]
Hirsutalin R	*Cladiella hirsuta*	P388, K562	IC_{50} = 13.8, 36.3 μM	[50]
Crassocolide A	*Sarcophyton crassocaule*	DLD-1, CCRF-CEM	ED_{50} = 5.7, 6.3μM	[49]
Sarcocrassocolide R	*Sarcophyton crassocaule*	DLD-1, CCRF-CEM, HL-60	ED_{50} = 10.0, 28.1, 8.7μM	[49]
Crassocolide B	*Sarcophyton crassocaule*	DLD-1, CCRF-CEM, HL-60	ED_{50} = 3.8, 8.7, 7.3μM	[49]
Crassocolide E	*Sarcophyton crassocaule*	DLD-1, CCRF-CEM, HL-60	ED_{50} = 7.9, 11.1, 8.4μM	[49]
Sarcocrassocolide P	*Sarcophyton crassocaule*	DLD-1, CCRF-CEM, HL-60	ED_{50} = 21.8, 48.8, 24.9μM	[49]
Sarcocrassocolide Q	*Sarcophyton crassocaule*	DLD-1, CCRF-CEM, HL-60	ED_{50} = 35.8, 73.1, 18.6μM	[49]
Crassocolide D	*Sarcophyton crassocaule*	DLD-1, CCRF-CEM, HL-60	ED_{50} = 27.7, 41.9, 34.6μM	[49]
Gibberoketosterol	*Sinularia numerosa*	P-388	ED_{50} = 6.9 μM	[124]
Cespitulone A	*Cespitularia taeniata*	Daoy, WiDr	IC_{50} = 8.7 and 6.7 μM	[125]
Klyflaccisteroid A	*Klyxum flaccidum*	A549	ED_{50} = 7.7 μg/mL	[57]
Klyflaccisteroid C	*Klyxum flaccidum*	HT-29, A549	ED_{50} = 8.2, 6.1 μg/mL	[57]
Klyflaccisteroid E	*Klyxum flaccidum*	HT-29, P388	ED_{50} = 6.9, 3.7 μg/mL	[57]
Hirsutosteroside B	*Cladiella hirsuta*	K562, P388, HT-29	IC_{50} = 39.3, 10.2, 29.1 μM	[55]
Hirsutosteroside A	*Cladiella hirsuta*	K562, A549	IC_{50} = 27.6, 32.2 μM	[55]
5*β*,6*β*-epoxy-3*β*,11-dihydroxy-24-methylene9,11-secocholestan-9-one	*Sinularia nanolobata*	K562, P388, HT-29	IC_{50} = 15.8, 15.5, 12.6 μM	[55]
Cladophenol glycoside A	*Cladiella hirsuta*	K562, P388, HT-29	IC_{50} = 18.5, 21.1, 20.3 μM	[55]
Sinulerectol C	*Sinularia erecta*	K-562	IC_{50} = 9.2 ± 3.3 μM	[56]
Glaucumolide A	*Sarcophyton glaucum*	HL-60, CCRF-CEM	ED_{50} = 6.6 ± 1.2, 7.4 ± 1.5 μg/mL	[58]
Sinulerectadione	*Sinularia erecta*	K-562, MOLT-4	IC_{50} = 8.6 ± 1.1, 9.7 ± 2.9 μM	[56]
Glaucumolide B	*Sarcophyton glaucum*	HL-60, CCRF-CEM	ED_{50} = 3.8 ± 0.9, 5.3 ± 1.4 μg/mL	[58]
(*Z*)-*N*-[2-(4-hydroxyphenyl)ethyl]-3-	*Sinularia erecta*	CCRF-CEM, MOLT-4	IC_{50} = 6.3 ± 1.5, 9.7 ± 3.6 μM	[56]

methyldodec-2-enamide				
3*α*,6*α*-epidioxyhimachal-1-ene	*Litophyton arboreum*	MCF-7, HCT116, HepG-2	IC_{50} = 19.1 ± 0.032 to 1000 μM	[126]
22-norerogostane derivative,13,14-seco-22-norergosta-4,24(28)-dien-19-hydroperoxide-3-one	*Litophyton arboreum*	MCF-7, HCT116, HepG-2	IC50 from 19.1 ± 0.032 to 1000 μM	[126]
11-acetoxy-15,17-dihydroxy-2,12-epoxy-(3*E*,7*E*)-1-cembra-3,7-diene	*Litophyton arboreum*	MCF-7, HCT116, HepG-2	IC_{50} = 19.1 ± 0.032, 22.0 ± 0.092, 24.0 ± 0.032 μM	[126]
Erythro-*N*-dodecanoyl-docosasphinga-(4*E*,8*E*)-dienine	*Litophyton arboreum*	MCF-7, HCT116, HepG-2	IC_{50} = 19.1 ± 0.032 to 1000 μM	[126]
Sarcophytol M	*Litophyton arboreum*	MCF-7, HCT116, HepG-2	IC_{50} = 19.1 ± 0.032 to 1000 μM	[126]
7*β*-acetoxy-24-methylcholesta-5-24(28)-diene-3,19-diol	*Litophyton arboreum*	MCF-7, HCT116, HepG-2	IC_{50} = 19.1 ± 0.032 to 1000 μM	[126]
(3*β*,5*α*,6*β*,22*E*)-3,5-dihydroxy-24-oxocholest-22-en-6-yl acetate	*Sinularia acuta*	HeLa	IC_{50} = 44.8 μM	[127]
(3*β*,5*α*,6*β*)-3,5-dihydroxyergost-24-ene-6,28-diyl diacetate	*Sinularia acuta*	HL-60, HeLa	IC_{50} = 7.3, 27.1 μM	[127]
24-methylidenecholestane-3*β*,5*α*,6*β*-triol 6-monoacetate	*Sinularia acuta*	HL-60, K562	IC_{50} = 9.9, 10.9 μM	[127]
(24*S*)-methylidenecholestane-3*β*,5*α*,6i-triol 6-monoacetate	*Sinularia acuta*	K562, HeLa	IC_{50} = 11.7, 18.2 μM	[127]
Methyl tortuoate B	*Sarcophyton pauciplicatum*	HepG2, HL-60, KB, LNCaP, SK-Mel2, and SW480	IC_{50} = 11.60 ± 0.30 to 30.03 ± 5.61 μM	[128]
Sarcophytolide M	*Sarcophyton pauciplicatum*	HepG2, HL-60, KB, LNCaP, LU-1, MCF7, SK-Mel2, SW480	IC_{50} = 15.31 ± 0.80 to 44.01 ± 1.51 μM	[128]
Sarcophytolide L	*Sarcophyton pauciplicatum*	HepG2, HL-60, KB, LNCaP, LU-1, MCF7, SK-Mel2, SW480	IC_{50} = 47.39 ± 1.03 to 67.29 ± 2.91 μM	[128]
Sarcophytolide I	*Sarcophyton pauciplicatum*	HepG2, HL-60, KB, LNCaP, LU-1, MCF7, SK-Mel2, SW480	IC_{50} = 12.34 ± 0.17 to 37.87 ± 3.82 μM	[128]
Sarcosarcophytolide J	*Sarcophyton pauciplicatum*	HepG2, HL-60, KB, LNCaP, LU-1, MCF7, SK-Mel2, SW480	IC_{50} = 10.54 ± 0.33 to 34.35 ± 1.61 μM	[128]
Methyl sartortuoate	*Sarcophyton pauciplicatum*	HepG2, HL-60, KB, LNCaP, LU-1, MCF7, SK-Mel2, SW480	IC_{50} = 7.93 ± 2.08 to 19.34 ± 0.72 μM	[128]
Lobophytone U	*Sarcophyton pauciplicatum*	HepG2, HL-60, KB, LNCaP, SK-Mel2, SW480	IC_{50} =16.22 ± 0.22 to 94.18 ± 3.02 μM	[128]
Ehrenbergol D	*Sarcophyton ehrenbergi*	P-388	EC_{50} = 2.0 μM	[129]

Ehrenbergol E	*Sarcophyton ehrenbergi*	P-388	EC_{50} = 3.0 μM	[129]
Columnariol A	*Nephthea columnaris*	LNCaP	IC_{50} = 9.80 μg/mL	[59]
Flexibilide	*Sinularia flexibilis*	Anti-tumor activity targeting the inositol-requiring 1/X-box-binding protein 1 (IRE1 /XBP1) signaling pathway	IC_{50} = 4.10 μg/mL	[130]
Klysimplexin Q	*Klyxum simplex*	HepG2, Hep3B, MDA-MB-231, MCF-7, A549, Ca9-22	IC_{50} = 53.2, 35.1, 44.0, 36.5, 40.5, 40.5 μM	[130]
Klysimplexin T	*Klyxum simplex*	HepG2, Hep3B, MDA-MB-231, MCF-7, A549, Ca9-22	IC_{50} = 34.3, 26.4, 44.0, 27.2, 42.0, 37.4 μM	[130]
Petasitosterone B	*Umbellulifera petasites*	DLD-1	IC_{50} = 6.4 ± 1.4 μg/mL	[64]
Petasitosterone C	*Umbellulifera petasites*	DLD-1	IC_{50} = 15.2 ± 3.5 μg/mL	[64]
5*α*-pregna-1,20-dien-3-one	*Umbellulifera petasites*	K-562, MOLT-4, DLD-1	IC_{50} = 13.5 ± 3.1, 5.9 ± 1.9, 9.7 ± 3.2 μg/mL	[64]
Petasitosterone A	*Umbellulifera petasites*	MOLT-4, DLD-1	IC_{50} = 12.1 ± 4.5, 5.8 ± 1.7 μg/mL	[64]
Cembrene A	*Lobophytum* sp.	A. Salina and Erhlich	LD_{50} = 25, 50 μg/mL	[131]
Nebrosteroid-*M*-[4*α*,24-dimethyl-5*α*-cholest-24(28)-en3*β*,8*β*,11*β*-triol]	*Litophyton mollis*	A549	IC_{50} = 20.4 ± 1.1 μM	[132]
4*α*,24-dimethyl-5*α*-cholest-24(28)-en-3*β*,8*β*,18-triol	*Litophyton mollis*	K562, A549	IC_{50} = 8.9 ± 0.9, 25.7 ± 1.5 μM	[132]
(22*E*,24*R*)-4*α*,24-dimethyl-5*α*-cholest-22-en-3*β*,8*β*,11*β*-triol	*Litophyton mollis*	K562, A549	IC_{50} = 7.7 ± 0.8, 20.8 ± 1.2 μM	[132]
Nebrosteroid-*D*-[(22*E*)-4*α*,24-dimethyl-5*α*-cholesta-22,24(28)-dien-3*β*,8*β*,11*β*-triol]	*Litophyton mollis*	K562, A549	IC_{50} = 6.0 ± 0.5, 22.1 ± 1.4 μM	[132]
Nebrosteroid-*A*-[23-oxo-4*α*,24-dimethyl-5*α*-cholest-24(28)-en3*β*,8*β*,11*β*-triol]	*Litophyton mollis*	K562	IC_{50} = 5.8 ± 0.8 μM	[132]
23n-acetoxy-4*α*,24-dimethyl-5*α*-cholest-24(28)-en-3*β*,8*β*,11btriol	*Litophyton mollis*	K562	IC_{50} = 5.6 ± 1.2 μM	[132]
Suberosoid	*Subergorgia suberosa*	HeLa	IC_{50} = 10.6 μM	[133]
Sarcophytosterol	*Sinularia nanolobata*	HL-60	IC_{50} = 89.02 ± 9.93 μM	[134]
24(*S*),28-epoxyergost-5-ene-3*β*,4*α*-diol	*Sinularia nanolobata*	HL-60, HepG2, SW480	IC_{50} = 33.53 ± 4.25, 64.35 ± 7.00, 71.02 ± 4.00 μM	[134]
Casbane-type diterpenoid 1	*Lobophytum* sp.	HCT116	IC_{50} = 135.57 μM	[61]
Cembrane diterpenoid 2	*Lobophytum* sp.	HCT116	IC_{50} = 177.11 μM	[61]

Cembrane diterpenoid 3	*Lobophytum* sp.	HCT116	IC_{50} = 153.11 μM	[61]
24-methyl-cholesta-5,24(28)-diene3*β*,19-diol-7*β*-monoacetate	*Nephthea erecta*	K562, Molt-4, Sup-T1	IC_{50} = 11.2, 19.9, 16.3 μM	[135]
Erectasteroid F	*Nephthea erecta*	K562, Molt-4, Sup-T1, U937	IC_{50} = 6.5, 8.0, 8.0, 12.9 μM	[135]
(3*β*,7*β*)-ergost-5,24(28)-diene-3*β*,7*β*,19-triol-7,19-diacetate	*Nephthea erecta*	K562, Molt-4, Sup-T1, U937	IC_{50} = 14.0, 7.9, 7.3, 6.8 μM	[135]
Klyflaccisteroid J	*Klyxum flaccidum*	HT-29, P388, K562	IC_{50} = 15.1, 14.8, 12.7 μM	[67]
Klyflaccisteroid H	*Klyxum flaccidum*	P388	IC_{50} = 15.5 μM	[67]
Klyflaccisteroid K	*Klyxum flaccidum*	HT-29, K562, A549, DLD-1	IC_{50} = 27.5, 22.5, 15.8, 27.5 μM	[62]
Klyflaccisteroid L	*Klyxum flaccidum*	HT-29, P388	IC_{50} = 36.7, 31.8 μM	[62]
Pinnisterol A	*Pinnigorgia* sp.	HSC-T6	46.5% inhibition at 10 μM	[63]
Pinnigorgiol A	*Pinnigorgia* sp.	HSC-T6	IC_{50} = 5.77 ± 0.27 μM	[63]
Pinnigorgiol B	*Pinnigorgia* sp.	HSC-T6	IC_{50} = 7.89 ± 0.52 μM	[63]
Bisdioxycalamenene	*Rhytisma fulvum*	Artemia salina	LD_{50} = 15 μg/mL	[136]
Protoxenicin A	*Protodendron repens*	A-549, HT-29, MDA-MB-231	GI_{50} = 2.1, 0.6, 1.1 μM	[137]
Protoxenicin B	*Protodendron repens*	A-549, HT-29, MDA-MB-231	GI_{50} = 6.3, 1.7, 6.1 μM	[137]
Sarcoaldesterol B	*Sarcophyton glaucum*	HepG2, MDA-MB-231, A-549	IC_{50} = 9.7, 14.0, 15.8 μg/mL	[138]
Sarcomilasterol	*Sarcophyton glaucum*	MDA-MB-231, MOLT-4, SUP-T, U-937	IC_{50} = 13.8, 6.7, 10.5, 17.7 μg/mL	[138]
Sinubrasolide H	*Sinularia brassica*	P388, MOLT-4, K-562, HT-29	IC_{50} = 39.8, 28.6, 29.7, 24.4 μg/mL	[71]
Sinubrasolide J	*Sinularia brassica*	P388, MOLT-4, K-562, HT-29	IC_{50} = 18.7, 17.2, 12.6, 11.2 μg/mL	[71]
Sinubrasolide K	*Sinularia brassica*	P388, MOLT-4, K-562, HT-29	IC_{50} = 18.3, 13.7, 17.4, 20.5 μg/mL	[71]
Sinubrasolide A	*Sinularia brassica*	P388, MOLT-4, K-562, HT-29	IC_{50} = 29.9, 12.1, 8.7, 18.7 μg/mL	[71]
(1*R*,2*E*,4*R*,6*R*,7*E*,10*S*,11*S*,12*R*)-10,18-diacetoxydolabella-2,7-dien-6-one	*Clavularia viridis*	A549, MCF-7	IC_{50} = 10.5 and 12.6 μM	[139]
Ergost-24(28)-ene-3,5,6-triol,(3*β*,5*α*,6*β*)-triol	*Sinularia terspilli*	HL60, K562	IC_{50} = 0.004, 0.005 μM	[140]
Ergost-24(28)-ene-1,3,6,11-tetraacetyl-5-ol, (1*α*,3*β*,5*α*,6*β*,11*α*)	*Sinularia terspilli*	HL60, K563	IC_{50} = 0.002, 0.003 μM	[140]
Alismol	*Sinularia terspilli*	HL60, K564	IC_{50} = 0.30, 0.35 μM	[140]
1*S*,4*S*,5*S*,10*R*-4,10-guaianediol	*Sinularia terspilli*	HL60, K565	IC_{50} = 0.21, 0.35 μm	[140]
Clavirolide G	*Clavularia viridis*	KB, HL-60	IC_{50} = 15.4, 17.8 μmol/L	[141]

14-deoxycrassin	*Sinularia flexibilis*	P-388, K-562	IC_{50} = 16.0, 26.7 μM	[77]
Dehydrosinulariolide	*Sinularia flexibilis*	P-388, K-562, HT-29	IC_{50} = 9.3, 23.4, 15.9 μM	[77]
Sinulariolide	*Sinularia flexibilis*	K-562, HT-29	IC_{50} = 21.7, 27.1 μM	[77]
11-*epi*-sinulariolide acetate	*Sinularia flexibilis*	P-388, K-562, HT-29	IC_{50} = 6.9, 12.2, 9.6 μM	[77]
Michosterol A	*Lobophytum michaelae*	A549	IC_{50} = 14.9 ± 5.7 μg/mL	[76]
Sinulariolide	*Sinularia flexibilis*	HT-29, SNU-398, Capan-1	IC_{50} = 33.6, 24.7, 26.1μM	[74]
5-dehydrosinulariolide	*Sinularia flexibilis*	A549, HT-29, SNU-398, Capan-1	IC_{50} = 27.4, 22.7, 8.9, 9.4 μM	[74]
11-*epi*-sinulariolide acetate	*Sinularia flexibilis*	HT-29, SNU-398, Capan-1	IC_{50} = 32.6, 24.9, 28.7μM	[74]

Supplementary table S3. Antimicrobial compounds from coral

Compound	Coral species	Reference microorganisms	Activity value	Ref.
Sinularoside A	*Sinularia humilis* Ofwegen	*M. violaceum, S. tritici, B. megaterium, C. fusca*	D = 17, 14, 30, 12 mm	[142]
Sinularoside B	*Sinularia humilis* Ofwegen	*M. violaceum, S. tritici, B. megaterium, C. fusca*	D = 17, 15, 30, 14 mm	[142]
(3*β*,5*α*,6*β*)-ergost-24(28)-en-3,5,6,19-tetrol 19-monoacetate	*Sinularia depressa*	*S. aureus*	MIC_{50} = 15.6 μM	[143]
Sarcophytolide	*Sarcophyton trocheliophorum* Marenzeller	*S. aureus*	MIC = 125 μg/mL	[144]
Sarcophine	*Sarcophyton glaucum*	*C. neoformans*	IC_{50} = 20 μg/mL	[145]
(22*E*,24*S*)-11*α*-acetoxy-ergostane-22,25-dien-3*β*,5*α*,6*β*-triol	*Sarcophyton* sp.	*E. coli, B. megaterium, M. violaceum, S. tritici*	D = 14.5, 12, 10, 7.5 mm	[146]
(24*S*)-11*α*-acetoxy-ergostane-3*β*,5*α*,6*β*-triol	*Sarcophyton* sp.	*E. coli, B. megaterium, M. violaceum, S. tritici*	D = 7.0, 7.5, 6.0, 6.5 mm	[146]
(24*S*)-23,24-dimethylcholesta-22-en-3*β*,5*α*,6*β*,11*α*-tetraol	*Sarcophyton* sp.	*E. coli, B. megaterium, M. violaceum, S. tritici*	D = 6.0, 7.0, 7.5, 9.0 mm	[146]
(24*S*)-ergostane-1*α*,3*β*,5*α*,6*β*,11*α*-pentaol	*Sarcophyton* sp.	*E. coli, B. megaterium, M. violaceum, S. tritici*	D = 7.5, 4.5, 7.0, 10.5 mm	[146]
(24*S*)-ergostane-3*β*,5*α*,6*β*,11*α*-tetraol	*Sarcophyton* sp.	*E. coli, B. megaterium, M. violaceum, S. tritici*	D = 6.0, 8.5, 8.5, 4.5 mm	[146]
(24*S*)-ergostane-3*β*,5*α*,6*β*-triol	*Sarcophyton* sp.	*E. coli, B. megaterium, M. violaceum, S. tritici*	D = 4.5, 4.5, 7.0, 6.5 mm	[146]
(24*S*)-ergostane-7-en-3*β*,5*α*,6*β*-triol	*Sarcophyton* sp.	*E. coli, B. megaterium, M. violaceum, S. tritici*	D = 6.0, 7.0, 6.0, 6.0 mm	[146]
11*α*-acetoxy-cholesta-24-en-3*β*,5*α*,6*β*-triol	*Sarcophyton* sp.	*E. coli, B. megaterium, M. violaceum, S. tritici*	D = 12, 10, 6.5, 10.5 mm	[146]
11*α*-acetoxy-gorgostane-3*β*,5*α*,6*β*,12*α*-tetraol	*Sarcophyton* sp.	*E. coli, B. megaterium, M. violaceum, S. tritici*	D = 9.5, 10, 8.5, 10 mm	[146]
11*α*-acetoxy-gorgostane-3*β*,5*α*,6*β*-triol	*Sarcophyton* sp.	*E. coli, B. megaterium, M. violaceum, S. tritici*	D = 7.0, 8.0, 9.5, 10 mm	[146]
12*α*-acetoxy-gorgostane-3*β*,5*α*,6*β*,11*α*-tetraol	*Sarcophyton* sp.	*E. coli, B. megaterium, M. violaceum, S. tritici*	D = 8.0, 10, 7.0, 4.5 mm	[146]
Gorgostane-1*α*,3*β*,5*α*,6*β*,11*α*-pentaol	*Sarcophyton* sp.	*E. coli, B. megaterium, M. violaceum, S. tritici*	D = 5.0, 4.0, 8.5, 7.0 mm	[146]

Gorgostane-3β,5α,6β,11α-tetraol	*Sarcophyton* sp.	*E. coli, B. megaterium, M. violaceum, S. tritici*	D = 10, 6.5, 11.5, 7.5 mm	[146]
1-(11′-hydroxymethyl-hexadecanoyl)-2-pentadecanoyl-3-propanol	*Heteroxenia ghardaqensis*	*M. luteus, K. pneumonia, C. albicans*	MIC = 64, 125, 125 μg/disc	[147]
Cembrene-C	*Sarcophyton trocheliophorum*	*S. aureus, Acinetobacter spp., MRSA, A. flavus, C. albicans*	MIC ≥ 13.6, ≥ 13.6, ≥ 13.6, 0.68, 0.68 μM	[117]
Palustrol	*Sarcophyton trocheliophorum*	*S. aureus, Acinetobacter spp., MRSA, A. flavus, C. albicans*	MIC = 6.6, 6.6, 11.1, ≥ 11.1, ≥ 11.1 μM	[117]
Sarcophine	*Sarcophyton trocheliophorum*	*S. aureus, Acinetobacter spp., MRSA, A. flavus, C. albicans*	MIC = 9.4, 9.4, 9.4, ≥ 21.3, ≥ 21.3 μM	[117]
Sarcotrocheliol	*Sarcophyton trocheliophorum*	*S. aureus, Acinetobacter spp., MRSA, A. flavus, C. albicans*	MIC = 1.53, 3.06, 3.06, ≥ 15.3, ≥ 15.3 μM	[117]
Sarcotrocheliol acetate	*Sarcophyton trocheliophorum*	*S. aureus, Acinetobacter spp., MRSA, A. flavus, C. albicans*	MIC = 1.74, 4.34, 4.34, ≥17.4, ≥17.4 μM	[117]
10α-methoxy-4β-hydroxy guaine-6-ene	*Sinularia kavarattiensis*	*S. aureus*	MIC = 37.5 μg/mL	[148]
New sesquiterpene	*Sinularia kavarattiensis*	*S. aureus*	MIC = 18.75 μg/mL	[148]
1*S**,4*S**,5*S**,10*R**-4,10-guaianediol	*Sinularia kavarattiensis*	*S. epidermidis*	MIC = 18.75 μg/mL	[148]
Subergosterone B	*Subergorgia rubra*	*B. cereus*	MIC = 1.56 μM	[149]
Subergosterone C	*Subergorgia rubra*	*B. cereus*	MIC = 1.56 μM	[149]
Gersemiol A	*Gersemia fruticosa*	*MRSA*	50% inhibition at 48 μg/mL	[150]
Eunicellol A	*Gersemia fruticosa*	*MRSA*	MIC_{90} = 24–48 μg/mL	[150]
Capgermacrene D	*Capnella imbricata*	*S. aureus and MRSA*	MIC = 200 μg/mL	[151]
Capgermacrene E	*Capnella imbricata*	*S. aureus and MRSA*	MIC = 180, 240 μg/mL	[151]
Capgermacrene F	*Capnella imbricata*	*S. aureus and MRSA*	MIC = 150 and 125 μg/mL	[151]
Capgermacrene G	*Capnella imbricata*	*S. aureus and MRSA*	MIC = 125 and 175 μg/mL	[151]
Stearic acid	*Lobophytum pauciflorum*	*B. subtilis*	MIC 50 μg/mL	[65]
Batilol	*Lobophytum pauciflorum*	*B.subtilis, S. lutea and C. albicans*	MIC = 25, 25, 50 μg/mL	[65]
Nephthenol	*Lobophytum pauciflorum*	*C. albicans*	MIC = 50 μg/mL	[65]
Gorgost-5-ene-3β-ol	*Lobophytum pauciflorum*	*C. albicans*	MIC = 50 μg/mL	[65]
Heptadecan-1-ol	*Lobophytum pauciflorum*	*P. aeruginosa, S. aureus, B. subtilis, M. pheli, S. lutea, C. albicans*	MIC = 50, 50, 50, 25, 50, 50 μg/mL	[65]

Alismol	*Lobophytum* sp.	*S.aureus, S. epidermis, S. pneumonia, P. aeruginosa*	MIC = 15-30 μg/mL, D = 12-18 mm	[131]
Alismoxide	*Lobophytum* sp.	*S.aureus, S. epidermis, S. pneumonia, P. aeruginosa*	MIC = 30 μg/mL, D = 11 - 15 mm	[131]
Aristol-9-ene	*Lobophytum* sp.	*S.aureus, S. epidermis, S. pneumonia, P. aeruginosa*	MIC ≥ 30 μg/mL, D = 7 - 10 mm	[131]
Cembrene A	*Lobophytum* sp.	*S.aureus, S. epidermis, S. pneumonia, P. aeruginosa*	MIC = 30 μg/mL, D = 11 - 15 mm	[131]
Chalinasterol	*Lobophytum* sp.	*S.aureus, S. epidermis, S. pneumonia, P. aeruginosa*	MIC ≥ 30 μg/mL, D = 7 - 10 mm	[131]
Nardol	*Lobophytum* sp.	*S.aureus, S. epidermis, S. pneumonia, P. aeruginosa*	MIC ≥ 30 μg/mL, D = 7 - 9 mm	[131]
Nephalsterol C	*Lobophytum* sp.	*S.aureus, S. epidermis, S. pneumonia, P. aeruginosa*	MIC = 30 μg/mL, D = 7 - 9 mm	[131]
Sarcotrocheldiol A	*Sarcophyton trocheliophorum*	*K. pneumonia, S. aureus, S. epidermidis*	D = 2 - 8 mm	[152]
Sarcotrocheldiol B	*Sarcophyton trocheliophorum*	*A. baumannii, E. coli, K. pneumonia, P. aeruginosa*	D = 6 - 11 mm	[152]
Trocheliane	*Sarcophyton trocheliophorum*	*A. baumannii, E. coli, K. pneumonia, P. aeruginosa, S. aureus, S. epidermidis, S. pneumoniae*	MIC = 4 - 6 μM, D = 12-18 mm	[152]
Casbane-type diterpenoid 1	*Lobophytum* sp.	*S. aureus, E. coli*	D = 10 mm	[61]
Cembrane diterpenoids 2	*Lobophytum* sp.	*S. aureus, S. enterica, E. coli*	D = 9 - 12 mm	[61]
Cembrane diterpenoids 3	*Lobophytum* sp.	*S. aureus, S. enterica, E. coli*	D = 9 - 10 mm	[61]
Nephthenol	*Nephthea* sp.	*L. thermophilum*	MIC = 12.5 μg/mL	[153]
Nephthecrassocolide A	*Nephthea* sp.	*L. thermophilum*	MIC = 12.5 μg/mL	[153]

Supplementary table S4. Antiviral compounds from coral

Compound	Coral species	Target virus	Activity value	Ref.
(+)-12-ethoxycarbonyl-11*Z*-sarcophine	*Sarcophyton ehrenbergi*	Human cytomegalovirus (HCMV)	IC_{50} = 60 μg/mL	[95]
Ehrenbergol A	*Sarcophyton ehrenbergi*	HCMV	IC_{50} = 46 μg/mL	[95]
Ehrenbergol B	*Sarcophyton ehrenbergi*	HCMV	IC_{50} = 5.0 μg/mL	[95]
(24*R*)-gorgost-25-en-3β,5α,6β,11α-tetraol	*Sarcophyton* sp.	H1N1 (Influenza A virus)	IC_{50}= 19.6 μg/mL	[105]
(24*S*)-ergost-3β,5α,6β,11α-tetraol	*Sarcophyton* sp.	H1N1 (Influenza A virus)	IC_{50}= 36.7 μg/mL	[105]
Sinuleptolide	*Sinularia nanolobata*	HCMV	ED_{50} = 1.92 μg/mL	[111]
Ehrenbergol C	*Sarcophyton ehrenbergi*	HCMV	EC_{50} = 20 μg/mL	[154]
Acetyl ehrenberoxide B	*Sarcophyton ehrenbergi*	HCMV	EC_{50} = 8.0 μg/mL	[154]
Alismol	*Litophyton arboretum*	HIV-1 PR enzymes	IC_{50} = 7.20 ± 0.7 μM	[107]
7β-acetoxy-24-methylcholesta-5-24(28)-diene-3,19-diol	*Litophyton arboretum*	HIV-1 PR enzymes	IC_{50} = 4.85 ± 0.18 μM	[107]
Erythro-*N*-dodecanoyl-docosasphinga-(4*E*,8*E*)-dienine	*Litophyton arboretum*	HIV-1 PR enzymes	IC_{50} = 4.80 ± 0.92 μM	[107]
Secocrassumol	*Lobophytum crissum*	HCMV	IC_{50} = 5.0 μg/mL	[155]
(+)-2-*epi*-12-methoxycarbonyl-11*E*-sarcophine	*Sarcophyton ehrenbergi*	HCMV	IC_{50} = 25.0 μg/mL	[129]
(4*S**,5*S**)-4-hydroxy-5-(hydroxymethyl)-2,3-dimethyl-4-pentylcyclopent-2-en-1-one	*Sinularia verruca*	HIV-1 virus	EC_{50} = 34 μM	[68]
(*S*)-4-hydroxy-5-methylene-2,3-dimethyl-4-pentylcyclopent-2-en-1-one	*Sinularia verruca*	HIV-1 virus	EC_{50} = 5.8 μM	[68]
(4*S**,5*S**)-4-hydroxy-5-(ethoxymethyl)-2,3-dimethyl-4-pentylcyclopent-2-en-1-one	*Sinularia verruca*	HIV-1 virus	EC_{50} = 30 μM	[68]
Subergorgol T	*Subergorgia suberosa*	A/WSN/33 (H1N1)	IC_{50} = 35.64 μM	[156]
Subergorgol U	*Subergorgia suberosa*	A/WSN/33 (H1N1)	IC_{50} = 37.73 μM	[156]
(10)-trien-20-one	*Subergorgia suberosa*	A/WSN/33 (H1N1)	IC_{50} = 50.95 μM	[156]
1,2-dehydroprogesterone	*Subergorgia suberosa*	A/WSN/33 (H1N1)	IC_{50} = 41.6 μM	[156]

Supplementary table S5. Antifouling compounds from coral

Compound	Coral species	Fouling organisms	Activity value	Ref.
Sinularone A	*Sinularia* sp.	Larvae of the barnacle *Balanus amphitrite*	EC_{50} = 13.86 μg/mL	[90]
Sinularone B	*Sinularia* sp.	Larvae of the barnacle *Balanus amphitrite*	EC_{50} = 23.50 μg/mL	[90]
Sinularone G	*Sinularia* sp.	Larvae of the barnacle *Balanus amphitrite*	EC_{50} = 18.65 μg/mL	[90]
Sinularone H	*Sinularia* sp.	Larvae of the barnacle *Balanus amphitrite*	EC_{50} = 21.39 μg/mL	[90]
Sinularone I	*Sinularia* sp.	Larvae of the barnacle *Balanus amphitrite*	EC_{50} = 12.58 μg/mL	[90]
Butenolide	*Sinularia* sp.	Larvae of the barnacle *Balanus amphitrite*	EC_{50} = 3.84 μg/mL	[90]
Capillosanane I	*Sinularia capillosa*	The barnacle *Balanus amphitrite*	IC_{50} = 5.40 μM	[27]
Capillosanane A	*Sinularia capillosa*	The barnacle *Balanus amphitrite*	IC_{50} = 9.70 μM	[27]
Sinulariol Z	*Sinularia rigida*	The barnacle *Balanus amphitrite* and *Bugula neritina*	EC_{50} = 4.57 and 13.48 μg/mL	[157]
(2*E*,7*E*)-4,11-dihydroxy1,12-oxidocembra- 2,7-diene	*Sinularia rigida*	The barnacle *Balanus amphitrite* and *Bugula neritina*	EC_{50} = 4.86 and 12.34 μg/mL	[157]
Nephthoacetal	*Nephthea* sp.	The larvae *Bugula neritina*	EC_{50} = 2.5 μg/mL	[104]
16,22-epoxy-20*β*,23*S*-dihydroxycholest-1-ene-3-one	*Subergorgia suberosa*	Larvae of the barnacle *Balanus amphitrite*	EC_{50} = 5.3 μg/mL	[158]
(1*R*,13*S*,12*S*,9*S*,8*R*,5*S*,4*R*)-9-acetoxy-5,8:12,13-diepoxycembr-15(17)-en-16,4-olide	*Sinularia flexibilis*	The larvae of the barnacle *Balanus albicostatus*	EC_{50} = 20.34 μg/mL	[159]
11-dehydrosinulariolide	*Sinularia flexibilis*	The larvae of the bryozoan *Bugula neritina*	EC_{50} = 21.02 μg/mL	[159]
Dihydrosinularin	*Sinularia flexibilis*	The larvae of the bryozoan *Bugula neritina*	EC_{50} = 55.60 μg/mL	[159]
(−)14-deoxycrassin	*Sinularia flexibilis*	The larvae of the bryozoan *Bugula neritina* and the barnacle *Balanus albicostatus*	EC_{50} = 3.90 and 21.26 μg/mL	[159]
Epoxycembrane A	*Sinularia flexibilis*	The larvae of the bryozoan *Bugula neritina* and the barnacle *Balanus albicostatus*	EC_{50} = 21.37 and 30.60 μg/mL	[159]
Sinulariolide	*Sinularia flexibilis*	The larvae of the bryozoan *Bugula neritina* and the barnacle *Balanus albicostatus*	EC_{50} = 33.18 and 21.00 μg/mL	[159]

Supplementary table S6. Other bioactive compounds from coral

Compound	Coral species	Activity type	Activity value	Ref
Crassumolide E	*Lobophytum* sp.	Acetylcholinesterase inhibitory	At least 1 μg as AChE inhibitor	[160]
(22*S*,24*S*)-24-methyl-22,25-epoxyfurost-5-ene-3*β*,20*β*-diol	*Lobophytum laevigatum*	PPARs transcriptional activity	2.0-fold activation at 10 μM	[87]
(24*S*)-ergost-5-ene-3*β*,7*α*-diol	*Lobophytum laevigatum*	PPARs transcriptional activity	2.5-fold activation 10 μM	[87]
Pregnenolone	*Lobophytum laevigatum*	PPARs transcriptional activity	2.1-fold activation 10 μM	[87]
Ethyl acetate fraction	*Lobophytum* sp.	Heme polymerization inhibitory	IC_{50} = 11.7 μg/mL	[161]
n-butanol fraction	*Lobophytum* sp.	Heme polymerization inhibitory	IC_{50} = 14.3 μg/mL	[161]
Aqueous fraction	*Lobophytum* sp.	Heme polymerization inhibitory	IC_{50} = 12.0 μg/mL	[161]
(3*β*,4*α*,5*α*,8*β*)-4-methylergost-24(28)-ene-3,8-diol	*Sinularia depressa*	PTP1B inhibitory	IC_{50} = 22.7 μM	[143]
(3*β*,4*α*,5*α*)-4-methylergost-24(28)-ene-3-ol	*Sinularia depressa*	PTP1B inhibitory	IC_{50} = 19.5 μM	[143]
Ergost-4,24(28)-diene-3-one	*Sinularia depressa*	PTP1B inhibitory	IC_{50} = 15.3 μM	[143]
Sarsolilide A	*Sarcophyton trocheliophorum*	PTP1B inhibitory	IC_{50} = 6.8 ± 0.96 μM	[162]
Sarsolilide B	*Sarcophyton trocheliophorum*	PTP1B inhibitory	IC_{50} = 27.1 ± 2.6 μM	[162]
An unnamed prenyleudesmane diterpene	*Sinularia polydactyla*	PTP1B inhibitory	IC_{50} = 75.5 μM	[163]
Sinupol	*Sinularia polydactyla*	PTP1B inhibitory	IC_{50} = 63.9 μM	[163]
Sinulacetate	*Sinularia polydactyla*	PTP1B inhibitory	IC_{50} = 51.8 μM	[163]
Montiporic acid D	*Montipora digitata*	DPPH radical scavenging activity	35% inhibition at 1 mg/mL	[164]
(*Z*)-13,15-hexadecadien-2,4-diyn-1-ol	*Montipora digitata*	DPPH radical scavenging activity	25% inhibition at 1 mg/mL	[164]
n-butanol fraction	*Lobophytum* sp.	DPPH radical scavenging activity	IC_{50} = 150 μg/mL	[161]

Supplementary table S7. Anti-inflammatory and cytotoxic compounds from coral-associated microorganisms

Compound	Coral species	Microorganisms	Target cell lines/ anti-inflammatory type	Activity value	Ref.
Versicolactone B	*Lobophytum michaelae*	*Aspergillus terreus*	Inhibition of NO production	Nearly 60% inhibition at 20 mM	[165]
3′-isoamylene butyrolactone IV	*Lobophytum michaelae*	*Aspergillus terreus*	Inhibition of NO production	Nearly 25.1% inhibition at 20 mM	[165]
Butyrolactone I	*Lobophytum michaelae*	*Aspergillus terreus*	Inhibition of NO production	Nearly 25.3% inhibition at 20 mM	[165]
Altersolanol C	*Sarcophyton* sp.	*Alternaria* sp.	HCT-116, MCF-7/ADR, PC-3, HepG2 and Hep3B	IC_{50} = 2.2, 3.2, 7.6, 8.9, 8.2 μM	[166]
Alterporriol P	*Sarcophyton* sp.	*Alternaria* sp.	HCT-116, MCF-7/ADR, PC-3, HepG2 and Hep3B	IC_{50} = 8.6, 23, 6.4, 20, 21 μM	[166]
Alterporriol C	*Sarcophyton* sp.	*Alternaria* sp.	HCT-116, MCF-7/ADR, PC-3, HepG2 and Hep3B	IC_{50} = 24, 98, 27, 53, 51 μM	[166]
Chondrosterin A	*Sarcophyton tortuosum*	*Chondrostereum* sp.	A549, CNE2, LoVo	IC_{50} = 2.45, 4.95, 5.47 μM	[167]
Strepchloritide A	Unidentified Coral	*Streptomyces* sp.	MCF-7	IC_{50} = 9.9 μmol/L	[168]
Strepchloritide B	Unidentified Coral	*Strepomyces* sp.	MCF-7	IC_{50} = 20.2 μmol/L	[168]
Aspetritone A	*Galaxea fascicularis*	*Aspergillus tritici*	HeLa, A549, HepG2	IC_{50} = 2.67 ± 0.60, 3.13 ± 0.68, 3.87 ± 0.74 μM	[169]
3-prenylterphenyllin	*Galaxea fascicularis*	*Aspergillus tritici*	HeLa, A549, HepG2	IC_{50} = 3.23 ± 0.40, 3.87 ± 0.15, 2.10 ± 0.20 μM	[169]
Aspetritone B	*Galaxea fascicularis*	*Aspergillus tritici*	HeLa, A549, HepG2	IC_{50} = 10.57 ± 0.93, 4.67 ± 0.60, 8.57 ± 0.83 μM	[169]
3,4-dimethyl-3″-prenylcandidusin A	*Galaxea fascicularis*	*Aspergillus tritici*	HeLa, A549, HepG2	IC_{50} = 16.77 ± 0.45, 21.07 ± 0.76, 27.17 ± 0.29 μM	[169]
4-methyl-3″-prenylcandidusin A	*Galaxea fascicularis*	*Aspergillus tritici*	HeLa, A549, HepG2	IC_{50} = 10.20 ± 0.50, 13.07 ± 0.72, 35.10 ± 1.00 μM	[169]
Candidusin A	*Galaxea fascicularis*	*Aspergillus tritici*	HeLa, A549, HepG2	IC_{50} = 25.07 ±0.81, 19.07 ± 0.64, 32.10 ± 2.00 μM	[169]
Terphenyllin	*Galaxea fascicularis*	*Aspergillus tritici*	HeLa, A549, HepG2	IC_{50} = 18.87 ± 1.27, 12.33 ± 0.68, 21.2 ± 0.35 μM	[169]
3-hydroxyterphenyllin	*Galaxea fascicularis*	*Aspergillus tritici*	HeLa, A549, HepG2	IC_{50} = 23.37 ± 0.84, 36.07 ± 1.67, 32.10 ± 2.65 μM	[169]
3-hydroxy-4″-deoxyterphenyllin	*Galaxea fascicularis*	*Aspergillus tritici*	HepG2	IC_{50} = 45.20 ± 1.00 μM	[169]

3″-prenylterphenyllin	*Galaxea fascicularis*	*Aspergillus tritici*	HeLa, HepG2	IC_{50} = 38.30 ± 1.50, 40.10 ± 0.90 μM	[169]
Emodin	*Galaxea fascicularis*	*Aspergillus tritici*	HeLa, A549, HepG2	IC_{50} = 25.07 ± 0.81, 22.17 ± 1.45, 30.20 ± 0.87 μM	[169]
3-hydroxy-2-hydroxymethyl-1-methoxyanthracene-9,10-dione	*Galaxea fascicularis*	*Aspergillus tritici*	A549	IC_{50} = 45.63 ± 1.79 μM	[169]
1,2,3-trimethoxy-7-hydroxymethylanthracene-9,10-dione	*Galaxea fascicularis*	*Aspergillus tritici*	HepG2	IC_{50} = 42.07 ± 1.07 μM	[169]

Supplementary table S8. Antimicrobial compounds from coral-associated microorganisms

Compound	Coral species	Microorganisms	Reference microorganisms	Activity value	Ref.
Cottoquinazoline D	*Cladiella* sp.	*A. versicolor*	*C. albicans*	MIC = 22.6 μM	[170]
Watasemycin A	Unidentified Coral	*Streptomyces* sp.	*S. aureus, methicillin-resistant S. aureus (MRSA082, MRSA111, MRSA234)*	MIC = 1.95 μg/mL, 7.81, 7.81, 7.81 μg/mL	[168]
Aerugine	Unidentified Coral	*Streptomyces* sp.	*S. aureus, methicillin-resistant S. aureus (MRSA082, MRSA111, MRSA234)*	MIC = 1.95 μg/mL, 7.81, 7.81, 7.81 μg/mL	[168]
(±)-pestalachloride D	*Sarcophyton* sp.	*Pestalotiopsis* sp.	*E. coli, V. anguillarum, V. parahaemolyticus*	MIC = 5.0, 10.0, 20.0 μM	[171]
(±)-pestalachloride C	*Sarcophyton* sp.	*Pestalotiopsis* sp.	*E. coli, V. anguillarum, V. parahaemolyticus*	MIC = 5.0, 10.0, 20.0 μM	[171]
Secalonic acid D	*Dichotella gemmacea*	*Penicillium* sp.	*B. subtilis, E. coli, M. luteus, P. nigrifaciens*	MIC = 22.4, 22.4, 24.4, 97.5 μg/mL	[172]
Secalonic acid B	*Dichotella gemmacea*	*Penicillium* sp.	*B. subtilis, E. coli, M. luteus, P. nigrifaciens*	MIC = 97.5, 97.5, 97.5, 390.5 μg/mL	[172]
Penicillixanthone A	*Dichotella gemmacea*	*Penicillium* sp.	*B. subtilis, E. coli, M. luteus, P. nigrifaciens*	MIC = 24.4, 24.4, 24.4, 97.5 μg/mL	[172]
4′-OMe-asperphenamate	*Sarcophyton* sp.	*A. elegans*	*S. epidermidis*	MIC = 10 μM	[173]
Asperphenamate	*Sarcophyton* sp.	*A. elegans*	*S. epidermidis*	MIC = 10 μM	[173]
Cytochalasin I	*Sarcophyton* sp.	*A. elegans*	*S. epidermidis and S. aureus*	MIC = 20, 10 μM	[173]
Cytochalasin D	*Sarcophyton* sp.	*A. elegans*	*S. epidermidis, S. aureus, E. coli and B. cereus*	MIC = 10 μM	[173]
Aspergillin PZ	*Sarcophyton* sp.	*A. elegans*	*S. epidermidis*	MIC = 20 μM	[173]
6-deoxyaflaquinolone E	*Carijoa* sp.	*Scopulariopsis* sp.	*S. aureus, B. cereus, V. parahaemolyticus, N. brasiliensis, P. putida*	MIC = 0.78, 1.56, 6.25, 0.78, 1.56 μM	[174]
Tropodithietic acid	*Pocillopora damicornis*	*Pseudovibrio* sp.	*V. coralliilyticus and V. owensii.*	D = 2 ±0.09 and 5 ±0.07 mm	[175]
3, 9-deoxy-7-methoxybostrycin	*Galaxea fascicularis*	*A. tritici*	*S. aureus (MRSA) (ATCC 43300, CGMCC 1.12409)*	MIC = 7.53 ± 0.31, 7.63 ± 0.21 μg/mL	[169]
4-methyl-3″-prenylcandidusin A	*Galaxea fascicularis*	*A. tritici*	*MRSA ATCC 43300, MRSA CGMCC 1.12409, V. vulnificus, V. rotiferianus, V. campbellii*	MIC = 3.80 ± 0.13, 3.80 ± 0.22, 7.77 ± 0.10, 7.75 ± 0.18, 15.57 ± 0.30 μg/mL	[169]
4-methyl-candidusin A	*Galaxea fascicularis*	*A. tritici*	*MRSA ATCC 43300, MRSA CGMCC 1.12409, V. vulnificus, V. campbellii*	MIC = 31.33 ± 0.61, 30.97 ± 0.78, 31.47 ± 1.22, 15.10 ± 0.44 μg/mL	[169]
Aspetritone B	*Galaxea fascicularis*	*A. tritici*	*MRSA ATCC 43300, MRSA CGMCC 1.12409, V. vulnificus, V. rotiferianus, V. campbellii*	MIC = 15.27 ± 0.35, 15.63 ± 0.45, 15.47 ± 0.51, 31.33 ± 0.23, 15.77 ± 0.29 μg/mL	[169]
3,4-dimethyl-3″-prenylcandidusin A	*Galaxea fascicularis*	*A. tritici*	*MRSA ATCC 43300, MRSA CGMCC 1.12409, V. vulnificus, V. rotiferianus*	MIC = 15.67 ± 0.50, 7.57 ± 0.73, 15.58 ± 0.33, 15.57 ± 0.30 μg/mL	[169]

Candidusin A	*Galaxea fascicularis*	*A. tritici*	*MRSA ATCC 43300, MRSA CGMCC 1.12409, V. vulnificus, V. rotiferianus*	MIC = 31.47 ± 0.24, 31.23 ± 0.10, 31.42 ± 0.23, 31.33 ± 0.19 μg/mL	[169]
4′′-deoxyterphenyllin	*Galaxea fascicularis*	*A. tritici*	*MRSA ATCC 43300, MRSA CGMCC 1.12409, V. vulnificus, V. rotiferianus, V. campbellii*	MIC = 31.30 ± 0.26, 31.45 ± 0.22, 31.37 ± 0.14, 31.53 ± 0.31, 31.47 ± 0.25 μg/mL	[169]
3-prenylterphenyllin	*Galaxea fascicularis*	*A. tritici*	*MRSA ATCC 43300, MRSA CGMCC 1.12409, V. vulnificus, V. rotiferianus*	MIC = 15.53 ± 0.31, 15.47 ± 0.23, 31.43 ± 0.32, 31.37 ± 0.21 μg/mL	[169]
Terphenyllin	*Galaxea fascicularis*	*A. tritici*	*MRSA ATCC 43300, MRSA CGMCC 1.12409, V. vulnificus*	MIC = 31.47 ± 0.24, 31.27 ± 0.16, 31.27 ± 0.25 μg/mL	[169]
3-hydroxyterphenyllin	*Galaxea fascicularis*	*A. tritici*	*MRSA ATCC 43300, MRSA CGMCC 1.12409, V. vulnificus, V. rotiferianus, V. campbellii*	MIC = 31.30 ± 0.17, 31.33 ± 0.12, 31.43 ± 0.21 μg/mL	[169]
3′′-prenylterphenyllin	*Galaxea fascicularis*	*A. tritici*	*MRSA ATCC 43300, MRSA CGMCC 1.12409, V. vulnificus, V. campbellii*	MIC = 31.33 ± 0.23, 31.28 ± 0.10, 31.25 ± 0.13, 31.43 ± 0.20 μg/mL	[169]
Emodin	*Galaxea fascicularis*	*A. tritici*	*MRSA ATCC 43300, MRSA CGMCC 1.12409, V. vulnificus, V. rotiferianus, V. campbellii*	MIC = 15.65 ± 0.18, 15.53 ± 0.12, 15.73 ± 0.12, 62.67 ± 0.15, 31.35 ± 0.22 μg/mL	[169]
3-hydroxy- 1,2,5,6-tetramethoxyanthracene-9,10-dione	*Galaxea fascicularis*	*A. tritici*	*MRSA ATCC 43300, MRSA CGMCC 1.12409*	MIC = 31.32 ± 0.25, 31.33 ± 0.23 μg/mL	[169]
3-hydroxy-2-hydroxymethyl-1-methoxyanthracene-9,10-dione	*Galaxea fascicularis*	*A. tritici*	*V. rotiferianus*	MIC = 31.28 ± 0.14 μg/mL	[169]
Lobophorin K	*Lophelia pertusa*	*Streptomyces* sp.	*S. aureus*	MIC_{90} = 40 - 80 μg/mL	[176]
Cell-free supernatant	*Platygyra* sp.	*Pseudoalteromonas* sp.	*B. cereus, S. aureus*	Survival rate: 15 - 46 % and 34 - 69 %	[177]
Agar containing bacteria	*Antipathes dichotoma*	*B. aquimaris*	*M. luteus, P. piscida*	D = 8.06 ± 0.71, 11.28 ± 0.72 mm	[178]
Agar containing bacteria	*Antipathes dichotoma*	*B. flexus*	*M. luteus, P. piscida*	D = 7.07 ± 0.14, 13.09 ± 0.46 mm	[178]
Agar containing bacteria	*Antipathes dichotoma*	*B. altitudinis*	*M. luteus*	D = 10.28 ± 0.42 mm	[178]
Agar containing bacteria	*Antipathes dichotoma*	*S. albus*	*M. luteus*	D = 11.29 ± 0.35 mm	[178]
Agar containing bacteria	*Antipathes dichotoma*	*S. labedae*	*M. luteus*	D = 12.69 ± 0.44 mm	[178]
Agar containing bacteria	*Antipathes dichotoma*	*P. oxalicum*	*M. luteus*	D = 8.23 ± 0.21 mm	[178]
Agar containing bacteria	*Antipathes dichotoma*	*B. amyloliquefaciens*	*M. luteus, P. piscida*	D = 8.17 ± 0.32 , 11.23 ± 0.56 mm	[178]
Agar containing bacteria	*Antipathes dichotoma*	*P. chrysogenum*	*M. luteus, P. piscida*	D = 9.28 ± 0.28, 11.41 ± 0.77 mm	[178]

Agar containing bacteria	*Antipathes dichotoma*	*P. citrinum*	*M. luteus, P. piscida*	D = 8.18 ± 0.61, 14.00 ± 0.70 mm	[178]
Agar containing bacteria	*Antipathes dichotoma*	*S. equorum*	*P. piscida*	D = 11.41 ± 0.73 mm	[178]
Agar containing bacteria	*Antipathes dichotoma*	*F. proliferatum*	*A. versicolor*	D = 15.45 ± 0.49 mm	[178]
Agar containing bacteria	*Antipathes dichotoma*	*B. subtilis*	*A. versicolor, A. sydowii*	D = 16.95 ± 0.63, 15.23 ± 0.59 mm	[178]
Agar containing bacteria	*Antipathes dichotoma*	*A. ochraceopetaliformis*	*A. versicolor, A. sydowii*	D = 17.15 ± 0.69, 11.62 ± 0.38 mm	[178]
Agar containing bacteria	*Antipathes dichotoma*	*M. coxensis*	*M. luteus, A. versicolor, A. sydowii*	D = 8.03 ± 0.82 , 11.22 ± 0.84, 8.12 ± 0.14 mm	[178]
Agar containing bacteria	*Antipathes dichotoma*	*S. albogriseolus*	*M. luteus, P. piscida, A.versicolor, A. sydowii*	D = 15.29 ± 0.42, 13.08 ± 0.65, 7.56 ± 0.39, 11.87 ± 0.72 mm	[178]
Agar containing bacteria	*Antipathes dichotoma*	*S. xiamenensis*	*M. luteus, P. piscida, A.versicolor, A. sydowii*	D = 16.25 ± 0.38, 16.94 ± 0.56, 14.33 ± 0.62, 9.13 ± 0.30 mm	[178]

Supplementary table S9. Antiviral compounds from coral-associated microorganisms

Compound	Coral species	Microorganisms	Target virus	Activity value	Ref.
Tetrahydroaltersolanol C	Sarcophyton sp.	Alternaria sp.	PRRSV	IC_{50} = 65 μM	[166]
Alterporriol Q	Sarcophyton sp.	Alternaria sp.	PRRSV	IC_{50} = 22 μM	[166]
Alterporriol C	Sarcophyton sp.	Alternaria sp.	PRRSV	IC_{50} = 39 μM	[166]
Pestalotiolide A	Sarcophyton sp.	Pestalotiopsis sp.	EV71, RSV	IC_{50} = 27.7, 80.9 μM	[179]
7-Hydroxy-5-Methoxy-4,6-Dimethyl-7-O-Β-D-Glucopyranosyl-Phthalide	Sarcophyton sp.	Pestalotiopsis sp.	EV71, RSV, HSV-1	IC_{50} = 51.6, 25.6, 63.9 μM	[179]
7-hydroxy-5-methoxy-4,6-dimethyl-7-O-A-L-rhamnosyl-phthalide	Sarcophyton sp.	Pestalotiopsis sp.	EV71	IC_{50} = 111 μM	[179]
7-hydroxy-5-methoxy-4,6-dimethylphthalidc	Sarcophyton sp.	Pestalotiopsis sp.	RSV	IC_{50} = 21 μM	[179]
5'-*O*-Acetyl uridine	Sarcophyton sp.	Pestalotiopsis sp.	EV71	IC_{50} = 110μM	[179]

Supplementary table S10. Antifouling compounds from coral-associated microorganisms

Compound	Coral species	Microorganisms	Fouling organisms	Activity value	Ref.
Cytochalasin I	*Sarcophyton* sp.	*Aspergillus elegans*	The larval of the barnacle *Balanus amphitrite*	EC_{50} = 34 μM	[173]
Cytochalasin J	*Sarcophyton* sp.	*Aspergillus elegans*	The larval of the barnacle *Balanus amphitrite*	EC_{50} = 14 μM	[173]
Cytochalasin D	*Sarcophyton* sp.	*Aspergillus elegans*	The larval of the barnacle *Balanus amphitrite*	EC_{50} = 6.2 μM	[173]
Cytochalasin H	*Sarcophyton* sp.	*Aspergillus elegans*	The larval of the barnacle *Balanus amphitrite*	EC_{50} = 37 μM	[173]
6,8,5'6'-tetrahydroxy-3'-methylflavone	*Dichotella gemmacea*	*Penicillium* sp.	The larval of the barnacle *Balanus amphitrite*	EC_{50} = 6.7 μg/mL	[172]
Emodin	*Dichotella gemmacea*	*Penicillium* sp.	The larval of the barnacle *Balanus amphitrite*	EC_{50} = 6.1 μg/mL	[172]
Citreorosein	*Dichotella gemmacea*	*Penicillium* sp.	The larval of the barnacle *Balanus amphitrite*	EC_{50} = 17.9 μg/mL	[172]
Isorhodoptilometrin	*Dichotella gemmacea*	*Penicillium* sp.	The larval of the barnacle *Balanus amphitrite*	EC_{50} = 13.7 μg/mL	[172]
Aniduquinolone A	*Carijoa* sp.	*Scopulariopsis* sp.	The larval of the barnacle *Balanus amphitrite*	EC_{50} = 17.5 pM	[174]
Aflaquinolone A	*Carijoa* sp.	*Scopulariopsis* sp.	The larval of the barnacle *Balanus amphitrite*	EC_{50} = 28 nM	[174]
Aflaquinolone D	*Carijoa* sp.	*Scopulariopsis* sp.	The larval of the barnacle *Balanus amphitrite*	EC_{50} = 2.8 nM	[174]
6-deoxyaflaquinolone E	*Carijoa* sp.	*Scopulariopsis* sp.	The larval of the barnacle *Balanus amphitrite*	EC_{50} = 1.04 μM	[174]
Aflaquinolone F	*Carijoa* sp.	*Scopulariopsis* sp.	The larval of the barnacle *Balanus amphitrite*	EC_{50} = 0.86 μM	[174]

Supplementary table S11. Other bioactive compounds from coral-associated microorganisms

Compound	Coral species	Microorganisms	Activity type	Activity value	Ref.
Alternariol-9-methyl ether-3-O-sulphate	*Litophyton arboreum*	*Alternaria alternata*	Protease inhibitory activity (HCV NS3-NS4A)	IC_{50} = 52.0 µg/mL	[180]
Alternar-iol-9-methyl ether	*Litophyton arboreum*	*Alternaria alternata*	Protease inhibitory activity (HCV NS3-NS4A)	IC_{50} = 32.2 µg/mL	[180]
Alternariol	*Litophyton arboreum*	*Alternaria alternata*	Protease inhibitory activity (HCV NS3-NS4A)	IC_{50} = 12.0 µg/mL	[180]
Ethyl acetate extract	*Litophyton arboreum*	*Alternaria alternata*	Protease inhibitory activity (HCV NS3-NS4A)	IC_{50} = 14.0 µg/mL	[180]
Cladospolide E	Unidentified soft coral	*Cladosporium* sp.	Lipid-lowering activity	IC_{50} = 12.1 µM	[181]
Secopatulolide A	Unidentified soft coral	*Cladosporium* sp.	Lipid-lowering activity	IC_{50} = 8.4 µM	[181]
Secopatulolide B	Unidentified soft coral	*Cladosporium* sp.	Lipid-lowering activity	IC_{50} = 13.1 µM	[181]
11-hydroxy-ɣ-dodecalactone	Unidentified soft coral	*Cladosporium* sp.	Lipid-lowering activity	IC_{50} = 7.1 µM	[181]
Eurothiocin A	*Sarcophyton* sp.	*Eurotium rubrum*	α-glucosidase inhibitory activity	IC_{50} = 17.1 µM	[182]
Eurothiocin B	*Sarcophyton* sp.	*Eurotium rubrum*	α-glucosidase inhibitory activity	IC_{50} = 42.6 µM	[182]
Butyrolactone I	*Sarcophyton* sp.	*Eurotium rubrum*	α-glucosidase inhibitory activity	IC_{50} = 98.5 µM	[182]
Aspernolide D	*Sarcophyton* sp.	*Eurotium rubrum*	α-glucosidase inhibitory activity	IC_{50} = 110.8 µM	[182]
Vermistatin	*Sarcophyton* sp.	*Eurotium rubrum*	α-glucosidase inhibitory activity	IC_{50} = 107.1 µM	[182]
Methoxyvermistatin	*Sarcophyton* sp.	*Eurotium rubrum*	α-glucosidase inhibitory activity	IC_{50} = 236 µM	[182]
(±)-asperteretone A	*Sarcophyton subviride*	*Aspergillus terreus*	α-glucosidase inhibitory activity	IC_{50} = 45.4 ± 3.8 to 53.1 ± 1.4 µM	[165]
(±)-asperteretone B	*Sarcophyton subviride*	*Aspergillus terreus*	α-glucosidase inhibitory activity	IC_{50} = 17.3 ± 2.4 to 19.2 ± 1.9 µM	[165]
(±)-asperteretone C	*Sarcophyton subviride*	*Aspergillus terreus*	α-glucosidase inhibitory activity	IC_{50} = 49.8 ± 5.7 to 52.2 ± 4.64 µM	[165]
(±)-asperteretone D	*Sarcophyton subviride*	*Aspergillus terreus*	α-glucosidase inhibitory activity	IC_{50} = 15.7 ± 1.1 to 18.9 ± 2.3 µM	[165]
Asperteretone E	*Sarcophyton subviride*	*Aspergillus terreus*	α-glucosidase inhibitory activity	IC_{50} = 48.9 ± 7.3 µM	[165]
Tetraorcinol A	*Cladiella* sp.	*Aspergillus versicolor*	DPPH radical scavenging activity	IC_{50} = 67 µM	[170]

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