



Homoserine Lactones

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Quorum sensing is a regulatory system used by bacteria for controlling gene expression in response to increasing cell density. This regulatory process manifests itself with a variety of phenotypes including biofilm formation and virulence factor production. Coordinated gene expression is achieved by the production, release, and detection of small diffusible signal molecules called autoinducers. The N-acylated homoserine lactones (AHLs) comprise one such class of autoinducers, each of which generally consists of a fatty acid coupled with homoserine lactone (HSL). Regulation of bacterial quorum sensing signaling systems to inhibit pathogenesis represents a new approach to antimicrobial therapy in the treatment of infectious diseases. AHLs vary in acyl group length (C4-C18), in the substitution of C3 (hydrogen, hydroxyl, or oxo group), and in the presence or absence of one or more carbon-carbon double bonds in the fatty acid chain. These differences confer signal specificity through the affinity of transcriptional regulators of the LuxR family.

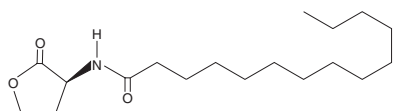
N-tetradecanoyl-L-Homoserine Lactone 10011200

*C*₁₄-Homoserine Lactone, *C*₁₄-HSL, *tDHL*

MF: C₁₈H₃₃NO₃ **Purity:** ≥98% **Supplied as:** A crystalline solid

Summary: A small diffusible signaling molecule involved in quorum sensing, thereby controlling gene expression and affecting cellular metabolism in bacteria; appears later than shorter chain AHLs in developing biofilms and, like other long chain AHLs, stimulates bacterial growth; alters proteolytic activity and enhances migration of some strains of *Proteus mirabilis*

5 mg
10 mg
25 mg
50 mg



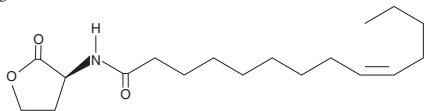
N-cis-tetradec-9-enoyl-L-Homoserine lactone 10012672

*C*₁₄:1- Δ^9 *cis*-(L)-HSL, *N*-(2-oxotetrahydrofuran-3S-yl) Myristoleyl Amide

MF: C₁₈H₃₁NO₃ **Purity:** ≥95% **Supplied as:** A crystalline solid

Summary: A long-chain N-acylated homoserine lactone that functions as a signaling molecule in the quorum sensing of *A. vitis*.

5 mg
10 mg
25 mg
50 mg



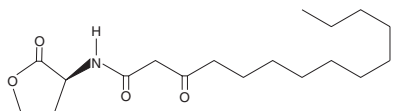
N-3-oxo-tetradecanoyl-L-Homoserine lactone 13063

*3-oxo-C*₁₄-L-Homoserine Lactone, *3-oxo-C*₁₄-L-HSL, *N*-3-oxo-myristoyl-L-Homoserine lactone

MF: C₁₈H₃₁NO₄ **Purity:** ≥98% **Supplied as:** A crystalline solid

Summary: A small diffusible signaling molecule involved in quorum sensing, thereby controlling gene expression and affecting cellular metabolism in bacteria; appears later than shorter acyl chain AHLs in developing biofilms; stimulates the production of putisolvin, which in turn, inhibits biofilm formation

1 mg
5 mg
10 mg
50 mg



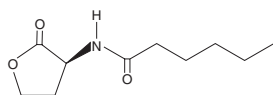
N-hexanoyl-L-Homoserine lactone 10007896

[147852-83-3] *C*₆-HSL

MF: C₁₀H₁₇NO₃ **Purity:** ≥98% **Supplied as:** A crystalline solid

Summary: A small diffusible signaling molecule involved in quorum sensing, controlling gene expression, and affecting cellular metabolism

5 mg
10 mg
25 mg
50 mg



Also available: *N*-hexanoyl-L-Homoserine lactone-d3 (10007897)

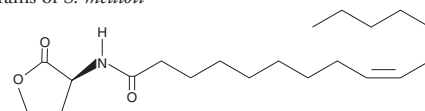
N-cis-hexadec-9-enoyl-L-Homoserine lactone 10012673

[479050-94-7] *C*₁₆:1- Δ^9 *cis*-(L)-HSL, *N*-(2-oxotetrahydrofuran-3S-yl) Palmitoleyl Amide

MF: C₂₀H₃₅NO₃ **Chemical Purity:** ≥98% **Supplied as:** A crystalline solid

Summary: A long-chain N-acylated homoserine lactone that functions as a quorum sensing signaling molecule in strains of *S. meliloti*

5 mg
10 mg
25 mg
50 mg



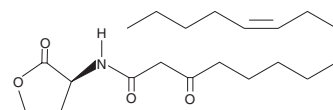
N-3-oxo-hexadec-11Z-enoyl-L-Homoserine lactone 10011238

[479050-91-4] *3-O-C*₁₆:1- Δ^{11} *cis*-(L)-HSL

MF: C₂₀H₃₃NO₄ **Purity:** ≥98% **Supplied as:** A solution in acetonitrile

Summary: A homoserine lactone member that is produced by the F2/5 strain of *Agrobacterium vitis*, the bacterium responsible for grape crown gall and its resulting loss of agricultural productivity

1 mg
5 mg
10 mg
25 mg



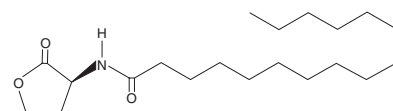
N-hexadecanoyl-L-Homoserine lactone 13064

[87206-01-7] *C*₁₆-HSL, *N*-palmitoyl-L-Homoserine Lactone

MF: C₂₀H₃₇NO₃ **Chemical Purity:** ≥95% **Supplied as:** A crystalline solid

Summary: One of a number of lipophilic, long acyl side-chain bearing AHLs produced by the LuxI AHL synthase homolog SinI involved in quorum-sensing signaling in *Sinorhizobium meliloti*, a nitrogen-fixing bacterial symbiont of certain legumes; the most abundant AHL produced by the proteobacterium *Rhodobacter capsulatus*; activates genetic exchange between *R. capsulatus* cells

5 mg
10 mg
25 mg
50 mg



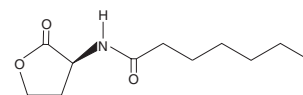
N-heptanoyl-L-Homoserine lactone 10011198

[177158-20-2] *C*₇-HSL

MF: C₁₁H₁₉NO₃ **Chemical Purity:** ≥98% **Supplied as:** A crystalline solid

Summary: A small diffusible signaling molecule involved in quorum sensing, controlling gene expression, and affecting cellular metabolism; applications of this molecule include regulation of virulence, infection prevention, and septicemia in fish

5 mg
10 mg
25 mg
50 mg



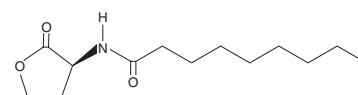
N-nonanoyl-L-Homoserine lactone 16868

[177158-21-3] *C*₉-HSL

MF: C₁₃H₂₃NO₃ **Purity:** ≥98% **Supplied as:** A crystalline solid

Summary: A small diffusible signaling molecule produced by wild-type *Erwinia carotovora* strain SCC 3193 involved in quorum sensing, controlling gene expression, and affecting cellular metabolism

5 mg
10 mg
25 mg
50 mg



Homoserine Lactones

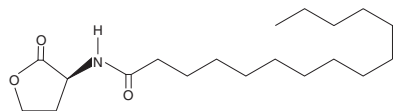
N-pentadecanoyl-L-Homoserine lactone 13094

[182359-66-6] C_{15} -HSL

MF: $C_{19}H_{35}NO_3$ **Purity:** $\geq 98\%$ **Supplied as:** A crystalline solid

Summary: A small diffusible signaling molecule produced in *Y. pseudotuberculosis* that is involved in quorum sensing, controlling gene expression, and affecting cellular metabolism

5 mg
10 mg
25 mg
50 mg



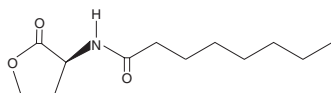
N-octanoyl-L-Homoserine lactone 10011199

[147852-84-4] C_8 -HSL, OHL

MF: $C_{12}H_{21}NO_3$ **Purity:** $\geq 98\%$ **Supplied as:** A crystalline solid

Summary: A small diffusible signaling molecule involved in quorum sensing, controlling gene expression, and affecting cellular metabolism; applications of this molecule include infection prevention and a regulation of virulence in general and in cystic fibrosis

5 mg
10 mg
25 mg
50 mg



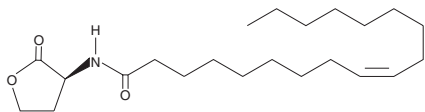
N-cis-octadec-9-enoyl-L-Homoserine lactone 10012674

C18:1-Δ⁹cis-(L)-HSL, N-(2-oxotetrahydrofuran-3S-yl) Oleyl Amide

MF: $C_{22}H_{39}NO_3$ **Purity:** $\geq 95\%$ **Supplied as:** A crystalline solid

Summary: A long-chain N-acylated homoserine lactone that functions as a quorum sensing signaling molecule

5 mg
10 mg
25 mg
50 mg



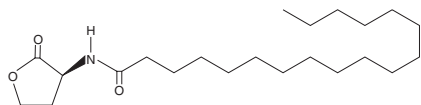
N-octadecanoyl-L-Homoserine lactone 13209

[479050-96-9] C_{18} -(L)-HSL

MF: $C_{22}H_{41}NO_3$ **Purity:** $\geq 98\%$ **Supplied as:** A crystalline solid

Summary: One of four lipophilic, long acyl side-chain bearing AHLs produced by the LuxI AHL synthase homolog SinI involved in quorum-sensing signaling in strains of *Sinorhizobium meliloti*, a nitrogen-fixing bacterial symbiont of the legume *Medicago sativa*

5 mg
10 mg
25 mg
50 mg



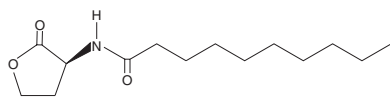
N-decanoyl-L-Homoserine lactone 10011201

[177315-87-6] C_{10} -Homoserine Lactone, C_{10} -HSL

MF: $C_{14}H_{25}NO_3$ **Purity:** $\geq 98\%$ **Supplied as:** A crystalline solid

Summary: A small diffusible signaling molecule involved in quorum sensing, controlling gene expression, and affecting cellular metabolism; applications for this molecule include regulation of virulence and exproteases

5 mg
10 mg
25 mg
50 mg



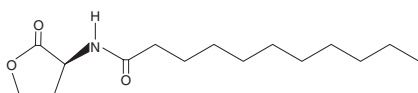
N-undecanoyl-L-Homoserine lactone 16827

[216596-71-3] C_{11} -HSL

MF: $C_{15}H_{27}NO_3$ **Purity:** $\geq 98\%$ **Supplied as:** A crystalline solid

Summary: A homoserine lactone member that possesses a rare odd-numbered acyl carbon chain and may be a minor quorum-sensing signaling molecule in *P. aeruginosa* strains

5 mg
10 mg
25 mg
50 mg



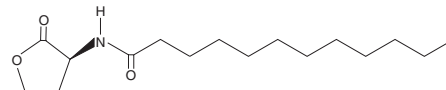
N-dodecanoyl-L-Homoserine lactone 10011203

[137173-46-7] C_{12} -Homoserine Lactone, C_{12} -HSL, dDHL

MF: $C_{16}H_{29}NO_3$ **Purity:** $\geq 98\%$ **Supplied as:** A crystalline solid

Summary: A small diffusible signaling molecule involved in quorum sensing, thereby controlling gene expression and affecting cellular metabolism in bacteria; activates NF- κ B in RAW 264.7 macrophages, increasing the expression of TNF- α , IL-1 β , and IL-8; alters cell cycling and metabolism of HaCaT cells

5 mg
10 mg
25 mg
50 mg



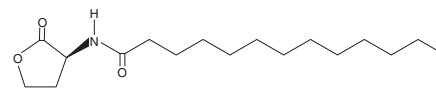
N-tridecanoyl-L-Homoserine lactone 13093

[878627-21-5] C_{13} -HSL

MF: $C_{17}H_{31}NO_3$ **Purity:** $\geq 98\%$ **Supplied as:** A crystalline solid

Summary: A homoserine lactone member that possesses a rare odd-numbered acyl carbon chain and is produced by wild-type and mutant strains of *Y. pseudotuberculosis* in trace amounts

5 mg
10 mg
25 mg
50 mg



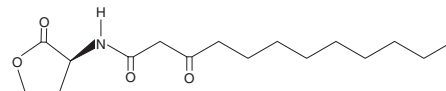
N-3-oxo-dodecanoyl-L-Homoserine lactone 10007895

[168982-69-2] 3-oxo- C_{12} -HSL

MF: $C_{16}H_{27}NO_4$ **Purity:** $\geq 98\%$ **Supplied as:** A crystalline solid

Summary: One of the acylhomoserine lactones frequently identified in extracts of respiratory secretions from cystic fibrosis patients infected with *P. aeruginosa* and/or strains of the *B. cepacia* complex

1 mg
5 mg
10 mg
50 mg



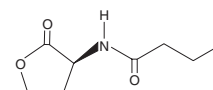
N-butyryl-L-Homoserine lactone 10007898

[67605-85-0] C_4 -HSL

MF: $C_8H_{13}NO_3$ **Purity:** $\geq 98\%$ **Supplied as:** A crystalline solid

Summary: A small diffusible signaling molecule involved in quorum sensing, controlling gene expression, and cellular metabolism

5 mg
10 mg
25 mg
50 mg



Also available: N-butyryl-L-Homoserine lactone-d5 (10007899)

N-butyryl-L-Homocysteine thiolactone 10011204

[202284-85-3]

MF: $C_8H_{13}NO_2S$ **Purity:** $\geq 98\%$ **Supplied as:** A crystalline solid

Summary: An analog of N-butyryl-L-homoserine lactone, the small diffusible signaling molecule involved in quorum sensing, controlling gene expression, and cellular metabolism; induces violacein expression in *C. violaceum* mutants usually not able to produce AHLs

5 mg
10 mg
25 mg
50 mg

