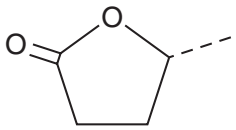
PRODUCT INFORMATION

(R)-γ-Valerolactone

Item No. 20837

CAS Registry No.:	58917-25-2
Formal Name:	dihydro-5R-methyl-2(3H)-furanone
Synonyms:	(R)-γ-VL, (+)-γ-Valerolactone
MF:	$C_5H_8O_2$
FW:	100.1
Purity:	≥95%
UV/Vis.:	λ_{max}: 213 nm
Supplied as:	A solution in acetonitrile
Storage:	-20°C
Stability:	≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

(R)-γ-Valerolactone ((R)-γ-VL) is supplied as a solution in acetonitrile. To change the solvent, simply evaporate the acetonitrile under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of (R)-γ-VL in these solvents is approximately 10 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of (R)-γ-VL is needed, it can be prepared by evaporating the acetonitrile and directly dissolving the neat oil in aqueous buffers. The solubility of (R)-γ-VL in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

(R)-γ-VL is an isomer of GVL, a prodrug to γ-hydroxyvaleric acid (GHV). GHV is approximately half as potent as γ-hydroxybutyric acid (GHB) but has similar effects.[1,2] GVL also has potential for use as a biofuel.[3]

References

1. U.S.D.o.J. GHB Analogs. 2002-L0424-003, (2002)
2. Andresen-Streichert, H., Jungen, H., Gehl, A., *et al.* Uptake of gamma-valerolactone—detection of gamma-hydroxyvaleric acid in human urine samples. *J. Anal. Toxicol.* **37(4)**, 250-254 (2013)
3. Galletti, A.M.R., Antonetti, C., De Luise, V., *et al.* A sustainable process for the production of γ-valerolactone by hydrogenation of biomass-derived levulinic acid. *Green Chem.* **14(3)**, 688-694 (2012)

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM