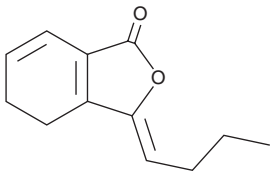
PRODUCT INFORMATION

(Z)-Ligustilide

Item No. 26908

CAS Registry No.:	81944-09-4
Formal Name:	3Z-butylidene-4,5-dihydro-1(3H)-isobenzofuranone
Synonyms:	*cis*-Ligustilide, Ligustilide A
MF:	$C_{12}H_{14}O_2$
FW:	190.2
Purity:	≥95%
UV/Vis.:	λ_{max}: 285, 322 nm
Supplied as:	A neat oil
Storage:	-20°C
Stability:	≥2 years
Special Conditions:	Light sensitive, store under nitrogen
Item Origin:	Plant/*Angelica sinensis*



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

Laboratory Procedures

(Z)-Ligustilide is supplied as a neat oil. A stock solution may be made by dissolving the (Z)-ligustilide in the solvent of choice, which should be purged with an inert gas. (Z)-Ligustilide is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of (Z)-ligustilide in these solvents is approximately 1 mg/ml. (Z)-Ligustilide is also miscible in ethanol.

Description

(Z)-Ligustilide is a phthalide that has been found in *A. graveolens* and *T. montana* roots and has diverse biological activities.[1-4] It inhibits autophagy and restores Nurr77 expression and sensitivity to tamoxifen (Item No. 13258) in tamoxifen-resistant MCF-7 cells.[2] (Z)-Ligustilide (8-32 mg/kg) increases cerebral expression of Nrf2 and HO-1 and reduces infarct volume and neuronal loss in a rat model of cerebral ischemia and reperfusion injury.[5] It decreases mechanical and thermal hyperalgesia in a rat model of inflammatory pain induced by complete Freund's adjuvant (CFA).[3] (Z)-Ligustilide restores gait coordination, reduces spinal cord inducible nitric oxide synthase (iNOS) expression, and inhibits production of prostaglandin E_2 (PGE_2; Item No. 14010), TNF-α, and IL-1β in a rat model of spinal cord injury.[4]

References

1. Gijbels, M.J.M., Fischer, F.C., Scheffer, J.J.C., *et al.* Phthalides in roots of Anethum graveolens and Todaroa montana. *Scientia Pharmaceutica* **51(4)**, 414-417 (1983).
2. Qi, H., Jiang, Z., Wang, C., *et al.* Sensitization of tamoxifen-resistant breast cancer cells by Z-ligustilide through inhibiting autophagy and accumulating DNA damages. *Oncotarget* **8(17)**, 29300-29317 (2017).
3. Wang, Y.-R., Xu, H., Tao, M., *et al.* Ligustilide relieves complete Freund's adjuvant-induced mechanical hyperalgesia through inhibiting the activation of spinal c-Jun N-terminal kinase/c-Jun pathway in rats. *Pharmacogn. Mag.* **13(52)**, 634-638 (2017).
4. Xiao, W., Yu, A., Liu, D., *et al.* Ligustilide treatment promotes functional recovery in a rat model of spinal cord injury via preventing ROS production. *Int. J. Clin. Exp. Pathol.* **8(10)**, 12005-12013 (2015).
5. Peng, B., Zhao, P., Lu, Y.-P., *et al.* Z-ligustilide activates the Nrf2/HO-1 pathway and protects against cerebral ischemia-reperfusion injury in vivo and in vitro. *Brain Res.* **1520**, 168-177 (2013).

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