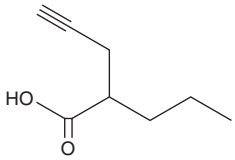
PRODUCT INFORMATION

(±)-4-yn-Valproic Acid

Item No. 45132

CAS Registry No.:	24102-11-2
Formal Name:	2-propyl-4-pentynoic acid
Synonyms:	ABS 205, (±)-2-Propyl-4-pentynoate, (±)-4-yne Valproic Acid, (±)-4-yn-VPA
MF:	$C_8H_{12}O_2$
FW:	140.2
Purity:	≥95%
Supplied as:	A neat oil
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

(±)-4-yn-Valproic acid ((±)-4-yn-VPA) is supplied as a neat oil. A stock solution may be made by dissolving the (±)-4-yn-VPA in the solvent of choice, which should be purged with an inert gas. (±)-4-yn-VPA is soluble (≥10 mg/ml) in ethanol and DMSO.

Description

(±)-4-yn-VPA is an alkyne-containing derivative of valproic acid (Item Nos. 35739 | 13033) and a racemic mixture of (R)- and (S)-4-yn-VPA. (±)-4-yn-VPA increases the levels of neural cell adhesion molecule (NCAM) in F9 embryonic stem cells in a stereoselective manner, with only (S)-4-yn-VPA increasing NCAM levels.[1] It also has stereospecific teratogenic effects *in vivo*, including inducing exencephaly in mice, with (S)-4-yn-VPA having a higher teratogenic potential than (R)-4-yn-VPA.[2] (±)-4-yn-VPA increases the seizure threshold in the pentylenetetrazole (PTZ; Item No. 18682) seizure threshold test in mice (ED_{50} = 1.78 mmol/kg), an effect that is independent of stereochemistry.[3]

References

1. Lampen, A., Grimaldi, P.A., and Nau, H. Modulation of peroxisome proliferator-activated receptor δ activity affects neural cell adhesion molecule and polysialyltransferase ST8SiaIV induction by teratogenic valproic acid analogs in F9 cell differentiation. *Mol. Pharmacol.* **68(1)**, 193-203 (2005).
2. Nau, H., Hauck, R.S., and Ehlers, K. Valproic acid-induced neural tube defects in mouse and human: Aspects of chirality, alternative drug development, pharmacokinetics and possible mechanisms. *Pharmacol. Toxicol.* **69(5)**, 310-321 (1991).
3. Hauck, R.S. and Nau, H. On the development of alternative antiepileptic drugs. *Naturwissenschaften* **78**, 272-274 (1991).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

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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