Product data sheet



MedKoo Cat#: 326701Name: Acamprosate calciumCAS#: 77337-73-6 (calcium salt); 77337-76-9 (free acid).Chemical Formula: $C_{10}H_{20}CaN_2O_8S_2$ Molecular Weight: 400.474Product supplied as:PowderPurity (by HPLC): $\geq 98\%$ Shipping conditionsAmbient temperatureStorage conditions:Powder: -20°C 3 years; 4°C 2 years.In solvent: -80°C 3 months; -20°C 2 weeks.



1. Product description:

Acamprosate is a medication used along with counselling in the treatment of alcohol dependence. Acamprosate is thought to stabilize the chemical balance in the brain that would otherwise be disrupted by alcohol withdrawal. Reports indicate that acamprosate works to best advantage in combination with psychosocial support and can help facilitate reduced consumption as well as full abstinence. Until it became a generic in the United States, Campral was manufactured and marketed in the United States by Forest Laboratories, while Merck KGaA markets it outside the US.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	0.5	1.25
PBS (pH 7.2)	1.0	2.50
Water	50.0	124.85

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.50 mL	12.49 mL	24.97 mL
5 mM	0.50 mL	2.50 mL	4.99 mL
10 mM	0.25 mL	1.25 mL	2.50 mL
50 mM	0.05 mL	0.25 mL	0.50 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

TBD

In vivo study

1. Choi BY, Lee SH, Choi HC, Lee SK, Yoon HS, Park JB, Chung WS, Suh SW. Alcohol dependence treating agent, acamprosate, prevents traumatic brain injury-induced neuron death through vesicular zinc depletion. Transl Res. 2019 May;207:1-18. doi: 10.1016/j.trsl.2019.01.002. Epub 2019 Jan 17. PMID: 30731068.

2. Chau P, Lidö HH, Söderpalm B, Ericson M. Acamprosate's ethanol intake-reducing effect is associated with its ability to increase dopamine. Pharmacol Biochem Behav. 2018 Dec;175:101-107. doi: 10.1016/j.pbb.2018.09.009. Epub 2018 Sep 26. PMID: 30266455.

7. Bioactivity

Biological target:

Acamprosate calcium (Campral EC) is a GABA receptor agonist and modulator of glutamatergic systems.

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In vitro activity

TBD

In vivo activity

This study next investigated whether acamprosate administration affected concentrations of vesicular glutamate and zinc in the hippocampus of intact brain. Immunohistochemical examination of the hippocampal dentate gyrus area showed expression of VGLUT1 or ZnT3 in the vehicle-treated group. In contrast, VGLUT1 or ZnT3 expression was significantly reduced in the acamprosate-treated group at the same hippocampal area (VGLUT1: vehicle, 30.74 ± 2.8 ; acamprosate, 19.36 ± 1.8 , a 37% decrease; ZnT3: vehicle, 24.98 ± 1.25 ; acamprosate, 19.62 ± 0.36 , a 21% decrease; average gray-scale intensities; Fig 1 B, C, F, and G). Western blot also revealed a significant decrease in the level of each of these proteins in the hippocampus of rats receiving acamprosate for 2 weeks as compared with the vehicle-treated group (VGLUT1: 0.48-fold change, P < 0.01; ZnT3: 0.74-fold change, P < 0.01; Fig 1 A–H). Moreover, the vesicular TSQ intensity was also significantly decreased in the hippocampal mossy fibers in rats receiving acamprosate as compared with the vehicle-treated group (vehicle, 24.3 ± 0.68 ; acamprosate, 19.68 ± 0.81 , a 19% decrease; average gray-scale intensities; Fig 1 I–K).

Reference: Transl Res. 2019 May;207:1-18. https://pubmed.ncbi.nlm.nih.gov/30731068/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.