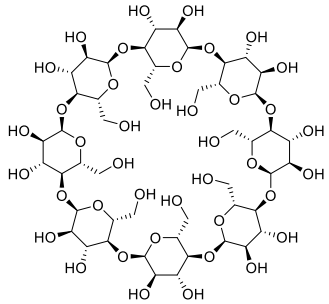
Product data sheet

MedKoo Cat#: 461339 Name: Gamma cyclodextrin CAS: 17465-86-0 Chemical Formula: $C_{48}H_{80}O_{40}$ Exact Mass: 1296.4226 Molecular Weight: 1297.128	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
Gamma cyclodextrin is a biochemical found in some foods.

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	100.0	77.09

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	0.77 mL	3.85 mL	7.71 mL
5 mM	0.15 mL	0.77 mL	1.54 mL
10 mM	0.08 mL	0.39 mL	0.77 mL
50 mM	0.02 mL	0.08 mL	0.15 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

1. Claveria-Gimeno R, Vega S, Grazu V, de la Fuente JM, Lanas A, Velazquez-Campoy A, Abian O. Rescuing compound bioactivity in a secondary cell-based screening by using γ-cyclodextrin as a molecular carrier. Int J Nanomedicine. 2015 Mar 19;10:2249-59. doi: 10.2147/IJN.S79480. PMID: 25834436; PMCID: PMC4371900.

In vivo study

1. Kallab M, Schuetzenberger K, Hommer N, Schäfer BJ, Schmidl D, Bergmeister H, Zeitlinger M, Tan A, Jansook P, Loftsson T, Stefansson E, Garhöfer G. Bio-Distribution and Pharmacokinetics of Topically Administered γ-Cyclodextrin Based Eye Drops in Rabbits. Pharmaceuticals (Basel). 2021 May 18;14(5):480. doi: 10.3390/ph14050480. PMID: 34070168; PMCID: PMC8158513.
2. Wupper S, Fischer A, Luersen K, Ipharraguerre IR, Chikamoto K, Furune T, Ishida Y, Terao K, Rimbach G. Effects of dietary gamma-cyclodextrin on voluntary activity and muscle strength in mice. J Physiol Pharmacol. 2020 Jun;71(3). doi: 10.26402/jpp.2020.3.08. Epub 2020 Sep 26. PMID: 32991317.

7. Bioactivity
Biological target:

γ-Cyclodextrin is an endogenous metabolite.

In vitro activity

Product data sheet

The most remarkable result came from a third compound that showed no antiviral activity in cell assays when delivered free in solution, but its γ-cyclodextrin complex exhibited a 50% effective concentration of 5 μM. Thus, the antiviral activity of these compounds can be significantly improved, even completely rescued, using γ-cyclodextrin as carrier molecule.

Reference: Int J Nanomedicine. 2015 Mar 19;10:2249-59. https://pubmed.ncbi.nlm.nih.gov/25834436/

In vivo activity

The γCD-treated mice covered a significantly larger distance per night (CON 8.6 km, γCD 12.4 km) and were significantly longer active (CON 340 min, γCD 437 min). Moreover, γCD-treated mice significantly performed better at the inverted screen test indicated by an enhanced Kondziela score (CON 3.10, γCD 4.63). These data suggest that dietary γCD leads to an increased endurance.

Reference: J Physiol Pharmacol. 2020 Jun;71(3). https://pubmed.ncbi.nlm.nih.gov/32991317/

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.