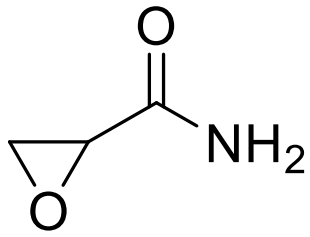
Product data sheet

MedKoo Cat#: 540182 Name: Glycidamide CAS: 5694-00-8 Chemical Formula: $C_3H_5NO_2$ Exact Mass: 87.032 Molecular Weight: 87.078	
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:
Glycidamide is a carcinogen and metabolite of acrylamide that induces DNA adduct formation and mutations.

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
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	11.48 mL	57.42 mL	114.84 mL
5 mM	2.30 mL	11.48 mL	22.97 mL
10 mM	1.15 mL	5.74 mL	11.48 mL
50 mM	0.23 mL	1.15 mL	2.30 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. Ekanem TI, Huang CC, Wu MH, Lin DY, Lai WT, Lee KH. Glycidamide Promotes the Growth and Migratory Ability of Prostate Cancer Cells by Changing the Protein Expression of Cell Cycle Regulators and Epithelial-to-Mesenchymal Transition (EMT)-Associated Proteins with Prognostic Relevance. Int J Mol Sci. 2019 May 4;20(9):2199. doi: 10.3390/ijms20092199. PMID: 31060254; PMCID: PMC6540322.
2. Lauvås AJ, Lislien M, Holme JA, Dirven H, Paulsen RE, Alm IM, Andersen JM, Skarpen E, Sørensen V, Macko P, Pistollato F, Duale N, Myhre O. Developmental neurotoxicity of acrylamide and its metabolite glycidamide in a human mixed culture of neurons and astrocytes undergoing differentiation in concentrations relevant for human exposure. Neurotoxicology. 2022 Jul 11;92:33-48. doi: 10.1016/j.neuro.2022.07.001. Epub ahead of print. PMID: 35835329.

In vivo study

1. Aras D, Cakar Z, Ozkavukcu S, Can A, Cinar O. In Vivo acrylamide exposure may cause severe toxicity to mouse oocytes through its metabolite glycidamide. PLoS One. 2017 Feb 9;12(2):e0172026. doi: 10.1371/journal.pone.0172026. PMID: 28182799; PMCID: PMC5300229.
2. Beland FA, Olson GR, Mendoza MC, Marques MM, Doerge DR. Carcinogenicity of glycidamide in B6C3F1 mice and F344/N rats from a two-year drinking water exposure. Food Chem Toxicol. 2015 Dec;86:104-15. doi: 10.1016/j.fct.2015.09.017. Epub 2015 Sep 30. PMID: 26429628; PMCID: PMC5066397.

7. Bioactivity

Product data sheet

Biological target:

Glycidamide is a carcinogen and metabolite of acrylamide that induces DNA adduct formation and mutations.

In vitro activity

Therefore, 1 μM of GA (glycidamide) was chosen to determine the migratory abilities of the GA-treated prostate cancer cells using a migration transwell assay. As shown in Figure 1C–D, the migratory abilities significantly increased by about by 3-fold, 2-fold, and 2.5-fold in GA-treated LNCap, DU145 and PC3, respectively. Taken together, these results showed that GA promotes cell growth and migration and contributes to malignant phenotypes of prostate cancer cells.

Reference: Int J Mol Sci. 2019 May 4;20(9):2199. https://pubmed.ncbi.nlm.nih.gov/31060254/

In vivo activity

Drinking water administration of glycidamide to F334/N rats resulted in a dose-related increase in brain gliosis in both sexes (Table 4). In male rats, the incidence of gliosis was increased in the 0.70 mM glycidamide dose group, while in female rats the incidence was increased at 0.175, 0.35, and 0.70 mM glycidamide. Male F344/N rats also had glycidamide-related increases in hepatocyte degeneration and necrosis in the liver. Additional non-neoplastic lesions associated with glycidamide exposure in female F344/N rats included axonal degeneration of the spinal cord and uterine endometrial hyperplasia.

Reference: Food Chem Toxicol. 2015 Dec;86:104-15. https://pubmed.ncbi.nlm.nih.gov/26429628/

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.