

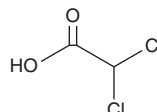
PRODUCT INFORMATION



Dichloroacetic Acid

Item No. 44824

CAS Registry No.: 79-43-6
Formal Name: 2,2-dichloro-acetic acid
Synonyms: BCA, Bichloroacetic Acid, DCA, DCAA
MF: $C_2H_2Cl_2O_2$
FW: 128.9
Purity: $\geq 95\%$
Supplied as: A neat oil
Storage: $-20^\circ C$
Stability: ≥ 4 years



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

Laboratory Procedures

Dichloroacetic acid (DCA) is supplied as a neat oil. A stock solution may be made by dissolving the DCA in the solvent of choice, which should be purged with an inert gas. DCA is soluble (≥ 10 mg/ml) in DMSO and sparingly soluble (1-10 mg/ml) in ethanol.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of DCA can be prepared by directly dissolving the neat oil in aqueous buffers. DCA is sparingly soluble (1-10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

DCA is a chlorinated acetic acid, a non-volatile disinfection byproduct, a pyruvate dehydrogenase kinase (PDHK) inhibitor, and an anticancer agent.¹⁻⁴ It is also a metabolite of trichloroethylene.⁵ DCA inhibits PDHK when used at concentrations ranging from 10 to 250 μM and selectively induces the accumulation of mitochondrial reactive oxygen species (ROS) in RPMI-8226 multiple myeloma cells resistant to melphalan (Item No. 16665).^{3,4} DCA (3.5 or 5 g/L for 60 weeks in the drinking water) decreases body weight and induces liver tumors in mice.⁶ It decreases serum testosterone levels and testis androgen receptor levels in male mice and induces miscarriages in pregnant mice when administered at doses of 26.4 and 264 mg/kg per day, respectively.¹ DCA decreases grip strength and induces gait deficits in weanling and adult rats.⁷ It has been found as a contaminant in drinking water.² Formulations containing DCA have been used as dermatological chemical cauterants.

References

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5. Cummings, B.S. and Lash, L.H. *Toxicol. Sci.* **53**(2), 458-466 (2000).
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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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