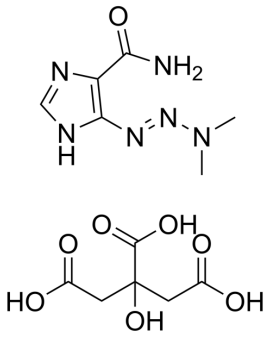
Dacarbazine citrate

Cat. No.:	HY-B0078A
CAS No.:	64038-56-8
Molecular Formula:	$C_{12}H_{18}N_6O_8$
Molecular Weight:	374.31
Target:	Apoptosis; Antibiotic
Pathway:	Apoptosis; Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Dacarbazine citrate is a cell cycle nonspecific antineoplastic alkylating agent. Dacarbazine citrate inhibits T and B lymphoblastic response, with IC_{50} values of 50 and 10 μg/mL, respectively. Dacarbazine Citrate can be used for the research of apoptosis and various cancers such as metastatic malignant melanoma[1][2].

In Vitro

Dacarbazine citrate has less pronounced inhibition of mitogenesis with IC_{50} values of 50 and 10 μg/mL for T and B cells, respectively[2].

Dacarbazine citrate (30 μM, 0-14 min) evokes a concentration-dependent calcium response in hTRPA1-HEK293 cells with an EC_{50} value of 23 μM and selectively activates the human TRPA1 channel[3].

Dacarbazine citrate (100-10,000 μM, 24 h) has cytotoxic action on B16-F10 melanoma cells[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[3]

Cell Line:	B16-F10 cell
Concentration:	100-10,000 μM
Incubation Time:	24 h
Result:	Reduced cell viability to 3,000 and 10,000 uM, with an inhibition percentage of 62 ± 2% after 24 h of incubation.

In Vivo

Dacarbazine citrate (1 mg/kg, i.p.) evokes a concentration-dependent calcium response and the maximum calcium response with an EC_{50} value of 16 μM in a subset of cells of cultured mouse DRG neurons and excites TRPA1 in rodent sensory neurons [3].

Dacarbazine citrate (1 mg/kg, i.p.; 1, 3, 5 and 7 days for chronic pain or 1 mg/kg, i.p. for acute treatment) induces mechanical and cold allodynia in mice[3].

Dacarbazine citrate-induced nociception can be reduced by TRPA1-deficient mice and antisense oligonucleotide for the TRPA1 receptor[3].

Dacarbazine citrate-induced chronic nociception can be reduced by selective TRPA1 receptor antagonists and antioxidants [3].

Dacarbazine citrate-induced nociception can be resisted by RPA1 antagonist or an antioxidant in a tumor-associated cancer pain model[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	C57BL/6, Trpa1$^{+/+}$ or Trpa1$^{-/-}$ mice[3]
Dosage:	1 mg/kg
Administration:	1 mg/kg, i.p. (for acute treatment);1 mg/kg, i.p.; 1, 3, 5 and 7 days (for chronic pain)
Result:	Caused mechanical allodynia with acute or repeated administration.

CUSTOMER VALIDATION

- Theranostics. 2020 Jul 25;10(21):9477-9494.
- J Mol Med (Berl). 2019 Aug;97(8):1183-1193.
- Exp Cell Res. 2020 Aug 1;393(1):112054.

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REFERENCES

[1]. Abdullah A Al-Badr, et al. Dacarbazine. Profiles Drug Subst Excip Relat Methodol

[2]. J M Rojo, et al. Inhibition of T and B lymphoblastic response by mithramycin, dacarbazine, prospidium chloride and peptichemio. Chemotherapy. 1983;29(5):345-51.

[3]. Int J Cancer, et al. Dacarbazine alone or associated with melanoma-bearing cancer pain model induces painful hypersensitivity by TRPA1 activation in mice. Int J Cancer. 2020 May 15;146(10):2797-2809.

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