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Produktinformation

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- Diagnostik & molekulare Diagnostik
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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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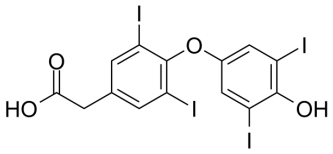
Tetrac

Cat. No.:	HY-W008859
CAS No.:	67-30-1
Molecular Formula:	$C_{14}H_8I_4O_4$
Molecular Weight:	747.83
Target:	Endogenous Metabolite; Integrin
Pathway:	Metabolic Enzyme/Protease; Cytoskeleton
Storage:	-20°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (133.72 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.3372 mL	6.6860 mL	13.3720 mL
	5 mM	0.2674 mL	1.3372 mL	2.6744 mL
	10 mM	0.1337 mL	0.6686 mL	1.3372 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 2.5 mg/mL (3.34 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (3.34 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (3.34 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Tetrac (Tetraiodothyroacetic acid), a derivative of L-thyroxine (T4), is a thyrointegrin receptor antagonist. Tetrac blocks the actions of T4 and 3,5,3'-triiodo-L-thyronine (T3) at the cell surface receptor for thyroid hormone on integrin αvβ3. Tetra has anti-angiogenic and anti-tumor activities[1][2].

In Vitro

Tetrac (0.01-1 μM; 2-6 d) induces anti-proliferation in HT-29 and HCT116 cells with different K-RAS status[3].
Tetrac (0.1 μM; 30 min) inhibits activation of ERK1/2 in HT-29 and HCT116 cells[3].
Tetrac (0.1 μM; 24 h) inhibits expression of CCND1 and c-Myc, but promotes expression of CASP2 and THBS1[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[3]

Cell Line:	HT-29 and HCT116 cells
Concentration:	0.01, 0.1, 1 μM
Incubation Time:	0, 2, 4, 6 days
Result:	Induced anti-proliferation of K-RAS wild-type colorectal cancer cells.

Western Blot Analysis[3]

Cell Line:	HT-29 and HCT116 cells
Concentration:	0.1 μM
Incubation Time:	30 min
Result:	Inhibited constitutively activated ERK1/2, and this inhibition can remove by anti-integrin α vβ3 antibody pretreatment.

In Vivo

Tetrac (35 μg; p.o. for 40 days) inhibits tumor inoculation, growth and integrin expression in mice[4].

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

Animal Model:	Wild-type male Balb/C mice aged 8 weeks are inoculated with 102B16F10 or B16LS9 cells [4]
Dosage:	35 μg per day
Administration:	P.o. (added to the drinking water) daily for 40 days
Result:	Delayed the onset of ocular melanoma. Reduced the S-100 and integrin staining level in the B16F10 mice model.

REFERENCES

[1]. Schmohl KA, et, al. Tetrac as an anti-angiogenic agent in cancer. Endocr Relat Cancer. 2019 Jun 1; 26(6):R287-R304.

[2]. Davis PJ, et, al. Nongenomic Actions of Thyroid Hormone: the Integrin Component. Physiol Rev. 2020 Jun 25.

[3]. Chin YT, et, al. Tetrac and NDAT Induce Anti-proliferation via Integrin αvβ3 in Colorectal Cancers With Different K-RAS Status. Front Endocrinol (Lausanne). 2019 Mar 12; 10:130.

[4]. Ashur-Fabian O, et, al. Tetrac Delayed the Onset of Ocular Melanoma in an Orthotopic Mouse Model. Front Endocrinol (Lausanne). 2019 Jan 8; 9:775.

[5]. Rajabi M, et, al. Synthesis of new analogs of tetraiodothyroacetic acid (tetrac) as novel angiogenesis inhibitors for treatment of cancer. Bioorg Med Chem Lett. 2018 Apr 15;28(7):1223-1227.

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