

Product Data Sheet

Product Name: Thidiazuron

Cat. No.: GC45032

Chemical Properties

Cas. No. 51707-55-2

SMILES O=C(NC1=CN=NS1)NC2=CC=CC=C2

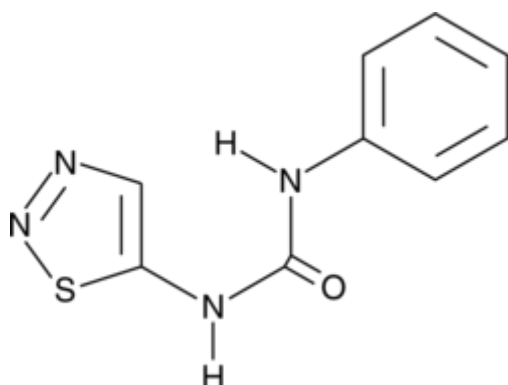
Formula C₉H₈N₄OS M.Wt 220.2

Solubility DMF: 30 mg/ml, DMF:PBS(pH 7.2) (1:1): 0.5 mg/ml, DMSO: 15 mg/ml, Ethanol: 1 mg/ml
Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Protocol

Cell experiment [1]:

Cell lines MDA-MB-231 cells

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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Cells were grown on four-chambered slides, exposed to Thidiazuron (50 μ M) for 2h, mounted and permeabilized. The cells were incubated with an anti-p65 antibody subsequently, FITC-labelled secondary antibody. The subcellular localization of p65 was examined through the confocal microscope at 40 $\times$ magnification.

Reaction Conditions 50 μ M; 2h

Applications Thidiazuron inhibited the nuclear translocation of p65.

References:

[1] Rajendran P, Ben Ammar R, Al-Saeedi F J, et al. Thidiazuron decreases epithelial-mesenchymal transition activity through the NF- κ B and PI3K/AKT signalling pathways in breast cancer [J]. Journal of cellular and molecular medicine, 2020, 24(24): 14525-14538.

Background

Thidiazuron belongs to bis-substituted urea derivatives, which showed extreme cytokinin activity and has been extensively used as an herbicide and a plant growth regulator [1]. Thidiazuron can affect multiple morphogenetic processes, including axillary shoot induction, adventitious shoot regeneration, and somatic embryogenesis in many plant species [2].

Thidiazuron (0~50 μ M; 24h) down-regulated the expression of uPA, uPAR, MMPs and VEGF in a dose-dependent manner in the MDA-MB-231 cells [3]. Thidiazuron (0, 0.025, 0.05, 0.1 and 0.4mg/L; 4 weeks) up-regulated the expression of cytokinin oxidase in the strawberry explants [2]. Thidiazuron (0, 2.3, 4.5, 6.9 and 9 μ M; 10 weeks) promoted somatic embryo formation in the blueberry leaf explants [4].

References:

[1] Nisler J. In Thidiazuron: From Urea Derivative to Plant Growth Regulator [M]. Berlin/Heidelberg, Germany: Springer, 2018.

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[2] Wang F, Li Y, Pang Y, et al. Thidiazuron enhances strawberry shoot multiplication by regulating hormone signal transduction pathways [J]. International journal of molecular sciences, 2025, 26(9): 4060.

[3] Rajendran P, Ben Ammar R, Al-Saeedi F J, et al. Thidiazuron decreases epithelial-mesenchymal transition activity through the NF-kB and PI3K/AKT signalling pathways in breast cancer [J]. Journal of cellular and molecular medicine, 2020, 24(24): 14525-14538.

[4] Ghosh A, Igamberdiev A U, Debnath S C. Thidiazuron-induced somatic embryogenesis and changes of antioxidant properties in tissue cultures of half-high blueberry plants [J]. Scientific reports, 2018, 8(1): 16978.

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