

## Product Data Sheet

Product Name: (Rac)-Brassinazole

Cat. No.: GC19544

### Chemical Properties

Cas. No. 224047-41-0

Chemical Name  $\beta$ -[(4-chlorophenyl)methyl]- $\alpha$ -methyl- $\alpha$ -phenyl-1H-1,2,4-triazole-1-ethanol

SMILES C1C(C=C1)=CC=C1CC(C(C)(O)C2=CC=CC=C2)N3N=CN=C3

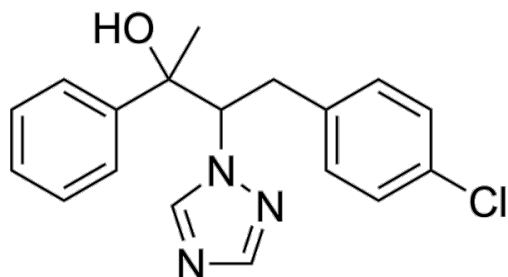
Formula  $C_{18}H_{18}ClN_3O$  M.Wt 327.8

Solubility DMF: 100 mg/ml, DMF:PBS(pH 7.2) (1:1): 0.5 mg/ml, DMSO: 50 mg/ml, Ethanol: 25 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



### Background

Brassinazole (Brz) is a specific inhibitor of C-22 hydroxylase (CYP90B1) in brassinosteroid (BR) biosynthesis, and the application use of brassinazole has emerged as an effective way of

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

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complementing BR-deficient mutants to elucidate the functions of BRs<sup>[1]</sup>. Brassinazole has regulatory roles in G-fiber cell wall development and secondary xylem cell wall carbohydrate biosynthesis during tension wood formation in hybrid poplar<sup>[2]</sup>. In addition, brassinazole treatment (5 $\mu$ M) can delay persimmon fruit ripening and suppress respiration rate<sup>[3]</sup>.

Brassinazole treatment (5, 1, and 0.5 $\mu$ M) markedly caused dwarfism of Arabidopsis seedlings in a concentration-dependent manner. Moreover, brassinazole treatment (1 $\mu$ M) showed a BR-deficient mutant-like phenotype, which is rescued by the application of brassinolide (BL) (10nM). Dark-grown 10-d-old Arabidopsis thaliana seedlings were treated with different concentrations of brassinazoles from 0 to 10 $\mu$ M. As the concentration of brassinazole increased, hypocotyl length decreased. The change in length occurred between 0.1 and 0.5 $\mu$ M<sup>[4]</sup>.

[1]. Oh K, Matsumoto T, Yamagami A, Ogawa A, Yamada K, Suzuki R, et al. YCZ-18 is a new brassinosteroid biosynthesis inhibitor. PLoS One. 2015;10(3):e0120812. Epub 20150320. doi: 10.1371/journal.pone.0120812. PubMed PMID: 25793645.

[2]. Gao J, Yu M, Zhu S, Zhou L, Liu S. Effects of exogenous 24-epibrassinolide and brassinazole on negative gravitropism and tension wood formation in hybrid poplar (Populus deltoids X Populus nigra). Planta. 2019;249(5):1449-63. Epub 20190128. doi: 10.1007/s00425-018-03074-2. PubMed PMID: 30689054.

[3]. He Y, Li J, Ban Q, Han S, Rao J. Role of Brassinosteroids in Persimmon ( Diospyros kaki L.) Fruit Ripening. J Agric Food Chem. 2018;66(11):2637-44. Epub 20180312. doi: 10.1021/acs.jafc.7b06117. PubMed PMID: 29509414.

[4]. Asami T, Min YK, Nagata N, Yamagishi K, Takatsuto S, Fujioka S, et al. Characterization of brassinazole, a triazole-type brassinosteroid biosynthesis inhibitor. Plant Physiol. 2000;123(1):93-100. doi: 10.1104/pp.123.1.93. PubMed PMID.

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