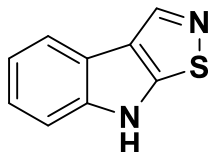


PRODUCT DATA SHEET

Brassilexin

(Phytoalexin)



Specifications

Code No.	: 20291
CAS#	: 119752-76-0
Molecular Formula	: C ₉ H ₆ N ₂ S
Molecular Weight	: 174.221
Source	: Chemically synthesized
Supplied as	: Powder
Purity	: > 98% (HPLC)
Long Term Storage	: at -20 °C
Solubility	: Soluble in MeOH, DMSO

The chemical structure was confirmed by NMR and HRMS.

Application Notes

Brassilexin was isolated from leaves of brown mustard, *Brassica juncea*, infected with *Alternaria brassicae*.¹⁾ It inhibited brassinin oxidase, a unique phytoalexin detoxifying enzyme produced by the plant pathogenic fungi.²⁾ It also inhibited cyclobraassinin hydrolase that catalyzes the transformation of another phytoalexin, cyclobraassinin, into S-methyl N-[(2-mercapto-1*H*-indol-3-yl)methyl]carbamothioate.³⁾ In addition, it was reported that brassilexin had antiproliferative activity against cancer cells.⁴⁾ Brassilexin and its analogues were synthesized and antifungal activities were studied.⁵⁾

References

- 1) Brassilexin, a novel sulphur-containing phytoalexin from *Brassica juncea* L., (Cruciferae). Devys M., et al. *Tetrahedron Lett.* 1988 **29**(49) 6447-6448.
- 2) Discovery of inhibitors of brassinin oxidase based on the scaffolds of the phytoalexins brassilexin and wasalexin. Pedras M.S.C., et al. *Bioorg. Med. Chem.* 2010 **18** 2456-2463.
- 3) The phytoalexins brassilexin and camalexin inhibit cyclobraassinin hydrolase, a unique enzyme from the fungal pathogen *Alternaria brassicola*. Pedras M.S.C., et al. *Bioorg. Med. Chem.* 2014 **22** 459-467.
- 4) Antiproliferative and cancer chemopreventive activity of phytoalexins: focus on indole phytoalexins from crucifers (Minireview). Mezencev R., et al. *Neoplasma* 2003 **50**(4) 239-245
- 5) Concise synthesis of the cruciferous phytoalexins, brassilexin, sinalexin, wasalexins and analogues: expanding the scope of the Vilsmeier condensation. Pedras M.S.C., et al. *J. Org. Chem.* 2005 **70** 1828-1834.