



LKT Laboratories, Inc.

Sinigrin Monohydrate, synthetic

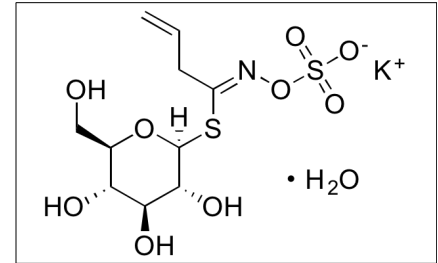
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Product Information

Product ID S3453
CAS No.
Chemical Name

Synonym

Formula $C_{10}H_{17}KNO_9S_2 \cdot H_2O$
Formula Wt. 415.49
Melting Point
Purity $\geq 98\%$
Solubility Soluble in water



Bulk quantities available upon request

Product ID	Size
S3453	100 mg
S3453	250 mg
S3453	1 g

Store Temp -20° C
Ship Temp Ambient

Description Sinigrin is an isothiocyanate precursor often found in vegetables belonging to the *Brassicaceae* family, such as Brussels sprouts, broccoli seeds, and mustard seeds. In vivo, sinigrin is converted to allyl isothiocyanate by endogenous myrosinase; allyl isothiocyanate exhibits a wide variety of beneficial qualities, including antioxidative, anti-hyperlipidemic, and anticancer activities. Sinigrin itself also has antioxidant activity in addition to its ability to modify lipid metabolism. Administration of sinigrin in vivo increases free fatty acids and esterified cholesterol and decreases triacylglycerol levels. Additionally, this compound induces expression of NAD(P)H:quinone oxidoreductase 1 and glutathione-S-transferase in the gastrointestinal tract in rodent models.

References Okulicz M. Multidirectional time-dependent effect of sinigrin and allyl isothiocyanate on metabolic parameters in rats. *Plant Foods Hum Nutr.* 2010 Sep;65(3):217-24. PMID: 20809411.

Washida K, Miyata M, Koyama T, et al. Suppressive effect of Yamato-mana (*Brassica rapa* L. Oleifera Group) constituent 3-butenyl glucosinolate (gluconapin) on postprandial hypertriglyceridemia in mice. *Biosci Biotechnol Biochem.* 2010;74(6):1286-9. PMID: 20530888.

Hwang ES, Lee HJ. Induction of quinone reductase by allylisothiocyanate (AITC) and the N-acetylcysteine conjugate of AITC in Hepa1c1c7 mouse hepatoma cells. *Biofactors.* 2006;26(1):7-15. PMID: 16614479

Hwang ES, Lee HJ. Allyl isothiocyanate and its N-acetylcysteine conjugate suppress metastasis via inhibition of invasion, migration, and matrix metalloproteinase-2/-9 activities in SK-Hep 1 human hepatoma cells. *Exp Biol Med (Maywood).* 2006 Apr;231(4):421-30. PMID: 16565438.

McWalter GK, Higgins LG, McLellan LI, et al. Transcription factor Nrf2 is essential for induction of NAD(P)H:quinone oxidoreductase 1, glutathione S-transferases, and glutamate cysteine ligase by broccoli seeds and isothiocyanates. *J Nutr.* 2004 Dec;134(12 Suppl):3499S-3506S. PMID: 15570060.

Caution: This product is intended for laboratory and research use only. It is not for human or drug use.