



LKT Laboratories, Inc.

R-(-)-Iberin

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## Product Information

Product ID I0417

CAS No.

Chemical Name R(-) 1-Isothiocyanato-3-(methylsulfinyl) propane

Synonym 3-Methylsulfinylpropyl isothiocyanate

Formula  $C_5H_9NOS_2$

Formula Wt. 163.26

Melting Point

Purity  $\geq 98\%$

Solubility

Store Temp  $-20^{\circ}C$

Ship Temp Ambient

**Description** Iberin is an isothiocyanate (ITC) and a sulforaphane homolog that exhibits antioxidative and anticancer chemotherapeutic activity. Like other ITCs, iberin may display chemopreventive potential by inducing phase II enzymes. In vitro, iberin induces Nrf2 nuclear translocation and increases levels of heme oxygenase-1 and glutamylcysteine synthetase, both potentially related to alterations in ERK signaling. Iberin also increases expression of antioxidative enzymes thioredoxin reductase 1 and glutathione peroxidase 2 in cellular models. In cancer cells, iberin induces p21 expression, decreases expression of cyclin-dependent kinases (CDKs) 2, 4, and 6, and increases caspase activity, resulting in apoptosis.

**Bulk quantities available upon request**

Product ID	Size
I0417	5 mg
I0417	10 mg
I0417	25 mg
I0417	50 mg
I0417	100 mg

**References** Ernst IM, Palani K, Esatbeyoglu T, et al. Synthesis and Nrf2-inducing activity of the isothiocyanates iberiverin, iberin and cheirolin. *Pharmacol Res.* 2013 Apr;70(1):155-62. PMID: 23403058.

Barrera LN, Cassidy A, Wang W, et al. TrxR1 and GPx2 are potently induced by isothiocyanates and selenium, and mutually cooperate to protect Caco-2 cells against free radical-mediated cell death. *Biochim Biophys Acta.* 2012 Oct;1823(10):1914-24. PMID: 22820176.

Traka MH, Chambers KF, Lund EK, et al. Involvement of KLF4 in sulforaphane- and iberin-mediated induction of p21(waf1/cip1). *Nutr Cancer.* 2009;61(1):137-45. PMID: 19116884.

Jadhav U, Ezhilarasan R, Vaughn SF, et al. Iberin induces cell cycle arrest and apoptosis in human neuroblastoma cells. *Int J Mol Med.* 2007 Mar;19(3):353-61. PMID: 17273780.

Jakobsen TH, Bragason SK, Phipps RK, et al. Food as a source for quorum sensing inhibitors: iberin from horseradish revealed as a quorum sensing inhibitor of *Pseudomonas aeruginosa*. *Appl Environ Microbiol.* 2012 Apr;78(7):2410-2421. PMID: 22286987.

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