



LKT Laboratories, Inc.

## Butein

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### Product Information

Product ID B8277

CAS No. 487-52-5

Chemical Name

Synonym

Formula  $C_{15}H_{12}O_5$

Formula Wt. 272.25

Melting Point

Purity  $\geq 99\%$

Solubility DMSO:  $\geq 35$  mg/mL

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

Ship Temp Ambient

**Description** Butein is a flavonoid originally found in the bark of *Rhus verniciflua* and the flowers of *Butea monosperma*. Butein exhibits anticancer chemotherapeutic, anti-angiogenic, neuroprotective, anti-inflammatory, antioxidative, and anti-fibrotic activities. In lung cancer cells, butein decreases expression of COX-2, inducing cell cycle arrest and apoptosis; this compound also inhibits tumor growth of prostate cancer xenografts in vivo. Butein inhibits phosphorylation of Akt, mTOR, and their downstream targets and suppresses VEGF-induced cell proliferation, migration, and tube formation in endothelial progenitor cells; it also inhibits vessel sprouting from aortic rings in vivo. In animal models of spinal cord injury, butein decreases expression of NF- $\kappa$ B and I $\kappa$ B $\alpha$ , inhibits activation of caspase 3, and suppresses infiltration of neutrophils. In cellular models, this compound increases levels of glutathione and activity of catalase and glutathione S-transferase and decreases levels of lactate dehydrogenase. Butein also acts as a free radical scavenger. Additionally, butein prevents hepatic stellate cell (HSC) activation, downregulating expression of TGF- $\beta$ , TIMP-1/2, and MMP-2 and inhibiting activation of NF- $\kappa$ B, p38, JNK, and Smad3.

**Bulk quantities available upon request**

Product ID	Size
B8277	1 mg
B8277	5 mg
B8277	10 mg
B8277	25 mg

**References** Li Y, Ma C, Qian M, et al. Butein induces cell apoptosis and inhibition of cyclooxygenase 2 expression in A549 lung cancer cells. *Mol Med Rep.* 2014 Feb;9(2):763-7. PMID: 24337484.

Chung CH, Chang CH, Chen SS, et al. Butein Inhibits Angiogenesis of Human Endothelial Progenitor Cells via the Translation Dependent Signaling Pathway. *Evid Based Complement Alternat Med.* 2013;2013:943187. PMID: 23840271.

Lu M, Wang S, Han X, et al. Butein inhibits NF- $\kappa$ B activation and reduces infiltration of inflammatory cells and apoptosis after spinal cord injury in rats. *Neurosci Lett.* 2013 May 10;542:87-91. PMID: 23499960.

Szuster-Ciesielska A, Mizerska-Dudka M, Daniluk J, et al. Butein inhibits ethanol-induced activation of liver stellate cells through TGF- $\beta$ , NF $\kappa$ B, p38, and JNK signaling pathways and inhibition of oxidative stress. *J Gastroenterol.* 2013 Feb;48(2):222-37. PMID: 22722906.

Sehrawat A, Kumar V. Butein imparts free radical scavenging, anti-oxidative and proapoptotic properties in the flower extracts of *Butea monosperma*. *Biocell.* 2012 Aug;36(2):63-71. PMID: 23185781.

Khan N, Adhami VM, Afaq F, et al. Butein induces apoptosis and inhibits prostate tumor growth in vitro and in vivo. *Antioxid Redox Signal.* 2012 Jun 1;16(11):1195-204. PMID: 22114764.

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