



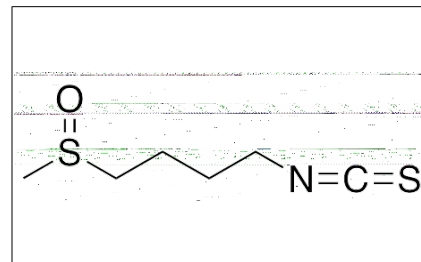
# LKT Laboratories, Inc.

## R,S-Sulforaphane, High Purity

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### Product Information

**Product ID** S8044  
**CAS No.** 4478-93-7  
**Chemical Name** 1-Isothiocyanato-4-(methylsulfinyl)-butane



**Synonym** D,L-Sulforaphane, Sulforaphane, 4-(Methylsulfinyl)-butyl isothiocyanate

**Formula** C<sub>6</sub>H<sub>11</sub>NOS<sub>2</sub>  
**Formula Wt.** 177.29

**Melting Point**

**Purity** ≥99%

**Solubility** Soluble in ethanol, methanol, or ethyl acetate. Miscible with water and/or DMSO.

**Store Temp** -20° C

**Ship Temp** Ambient

**Description** R,S-Sulforaphane is a synthetic isothiocyanate. R-Sulforaphane is the naturally-occurring isomer, found in broccoli. This compound exhibits antioxidative, neuroprotective, anti-inflammatory, anti-atherosclerotic, neuromodulatory, cardioprotective, anticoagulant, antibiotic, anticancer chemotherapeutic, and chemopreventive activities; research suggests that the R-isomer may be more bioactive than the S-isomer. R,S-Sulforaphane induces activity and expression of phase II enzymes, inhibits the aryl hydrocarbon receptor, and downregulates expression of HDACs and STAT5. In cellular and animal models of melanoma, this compound inhibits tumor growth and cell proliferation. R,S-Sulforaphane also induces autophagy. In animal models of Alzheimer's disease, R,S-sulforaphane lessens cognitive impairment. Additionally, this compound increases activity of Nrf2 and expression of catalase, protecting against UV-induced oxidative damage in ex vivo models. In other animal models, R,S-sulforaphane inhibits TNF- $\alpha$ -induced adhesion of monocytes to epithelial cells and decreases levels of VCAM-1. In myocytes, this compound prevents angiotensin II-induced hypertrophy. Additionally, R,S-sulforaphane inhibits platelet aggregation by suppressing PI3K/Akt signaling. R,S-Sulforaphane also displays antibacterial efficacy against *Escherichia*.

**Bulk quantities available upon request**

Product ID	Size
S8044	25 mg
S8044	50 mg
S8044	100 mg
S8044	500 mg

Please note: This compound is a neat liquid at room temperature, clear to slightly yellow in color. It is not dissolved in solvent. In small quantities the material will coat the sides of the ampule it is shipped in and may appear to be invisible, or it may be trapped in the tip of the ampule. Wash the upper and lower parts of the ampoule with solvent to ensure all of the material is obtained.

**References** Lee JH, Jeong JK, Park SY. Sulforaphane-induced autophagy flux prevents prion protein-mediated neurotoxicity through AMPK pathway. *Neuroscience*. 2014 Oct 10;278:31-9. PMID: 25130556.

Zhang R, Zhang J, Fang L, et al. Neuroprotective effects of sulforaphane on cholinergic neurons in mice with Alzheimer's disease-like lesions. *Int J Mol Sci*. 2014 Aug 18;15(8):14396-410. PMID: 25196440.

Nallasamy P, Si H, Babu PV, et al. Sulforaphane reduces vascular inflammation in mice and prevents TNF- $\alpha$ -induced monocyte adhesion to primary endothelial cells through interfering with the NF- $\kappa$ B pathway. *J Nutr Biochem*. 2014 Aug;25(8):824-33. PMID: 24880493.

Pinz S, Unser S, Rasclé A. The natural chemopreventive agent sulforaphane inhibits STAT5 activity. *PLoS One*. 2014 Jun 9;9(6):e99391. PMID: 24910998.

Wu QQ, Zong J, Gao L, et al. Sulforaphane protects H9c2 cardiomyocytes from angiotensin II-induced hypertrophy. *Herz*. 2014 May;39(3):390-6. PMID: 23784363.

Kleszczynski K, Ernst IM, Wagner AE, et al. Sulforaphane and phenylethyl isothiocyanate protect human skin against UVR-induced oxidative stress and apoptosis: role of Nrf2-dependent gene expression and antioxidant enzymes. *Pharmacol Res*. 2013 Dec;78:28-40. PMID: 24121007.

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