LKT Laboratories, Inc.

N-Acetyl-S-(N'-benzylthiocarbamoyl)-L-cysteine

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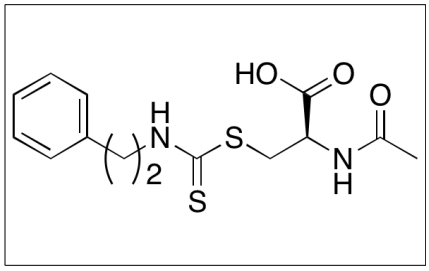
Product Information

Product ID A0820
CAS No.
Chemical Name N-Acetyl-S-(N'-benzylthiocarbamoyl)-L-cysteine

Synonym Acetyl-benzylisothiocyanate-L-cysteine



Formula $C_{13}H_{16}N_2O_3S_2$
Formula Wt. 312.41
Melting Point
Purity ≥98%
Solubility

Bulk quanitites available upon request

Product ID	Size
A0820	10 mg
A0820	25 mg
A0820	100 mg

Store Temp -20˚C
Ship Temp Ambient

Description N-Acetyl-S-(N'-benzylthiocarbamoyl)-L-cysteine (ABITC) is a cysteine conjugate of N-acetyl-benzylisothiocyanate; acetylbenzyl isothiocyanate-L-cysteine is a derivative of benzyl isothiocyanate-L-cysteine (BITC). Isothiocyanates are typically found in plants of the *Brassicaceae* family, including broccoli, cabbage, and radish. Isothiocyanates are best known for their antioxidative, anticancer chemotherapeutic, chemopreventive, anti-angiogenic, and antibiotic properties. In vitro, BITC increases caspase-mediated apoptosis in Jurkat T cells. BITC also induces oxidative stress in glioma cells, inhibiting expression of superoxide dismutase and glutathione-S-transferase, resulting in cell cycle arrest and apoptosis. BITC downregulates expression of protein Ron, preventing growth of breast cancer stem cells in vitro and in vivo. Additionally, this compound inhibits mTOR activity, inducing autophagy in prostate cancer cells. In other in vitro models, BITC inhibits phosphorylation of VEGFR2 and downregulates expression of VEGF, HIF-1α, STAT3, and matrix metalloproteinase 2 (MMP2). BITC exhibits antibacterial activity against species of *Bacillus*, *Staphylococcus*, *Enterococcus*, *Salmonella*, and *Enterobacter*; it also displays anti-parasitic activity against nematodes of the genus *Heterodera*.

References

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