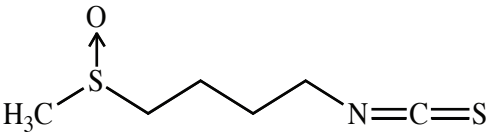
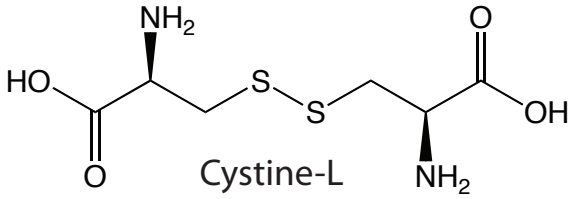
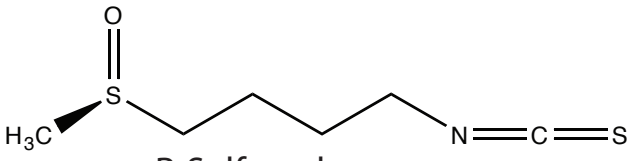
Isothiocyanates



R, S-Sulforaphane



Cystine-L



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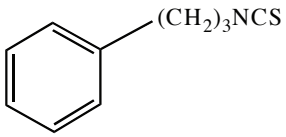
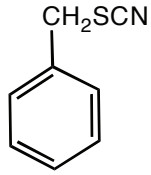
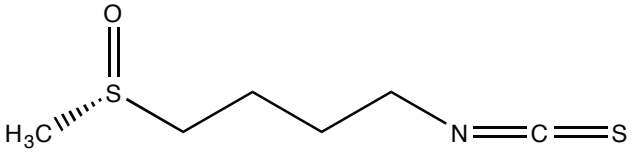


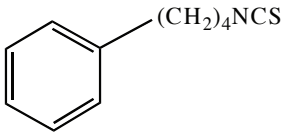
3-Phenylpropyl Isothiocyanate



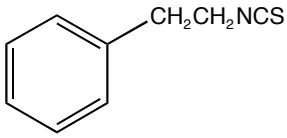
Benzyl Isothioccyanate



S-Sulforaphane



4-Phenylbutyl isothiocyanate



Phenethyl Isothiocyanate

Isothiocyanates occur naturally as glucosinolates in edible plants.[1,2] The consumption of cruciferous vegetables is the main dietary source of isothiocyanates.[3] Benzyl and phenethyl isothiocyanates (BITC, PEITC) have been found to inhibit chemically induced carcinogenesis in several animal models.[4,5] BITC is particularly effective against benzo[a]pyrene-induced lung tumorigenesis, while PEITC inhibits NNK-induced lung carcinogenesis.[6] 3-Phenylpropyl and 4-phenylbutyl isothiocyanates (PPITC, PBITC) are synthetic compounds that show anti-carcinogenic effects[7] Studies on the effect of alkyl chain length of phenylalkyl isothiocyanates on tobacco specific nitrosamine-induced lung tumorigenesis revealed that PPITC and PBITC and more effective than the naturally occuring isothiocyanates.[8]

Sulforaphane, isolated from broccoli[9,] has been found to inhibit chemically induced mammary tumors in rats.[10] Many sulforaphane analogues have been previously isolated from plants.[11] Their enzyme inducing activity was less potent than that of sulforaphane.9 Isothiocyanates have been found to induce activity of the detoxifying enzymes system, glutathione S-transferase[5,12] and to suppress carcinogen activation by cytochromes P450[4,5,13], particularly P450 2B1, the major enzyme involved in NNK activation.[14] LKT Laboratories, Inc. offers the natural chiral R-sulforaphane, its syntheticenantiomer, S-sulforaphane, and synthetic R,S-sulforaphane. Phenylalkyl isothiocyanates and phenethyl glucosinolate are also available in high purity.

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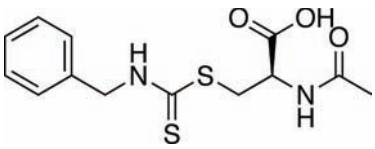
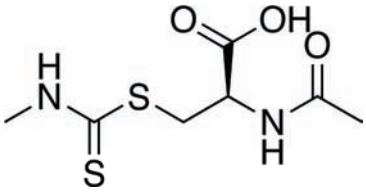
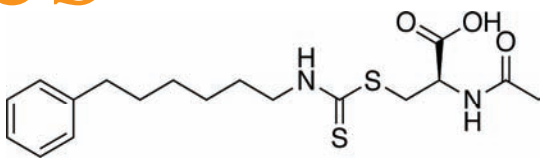
Isothiocyanate Conjugates



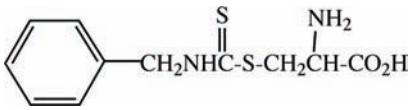
N-Acetyl-S-(N'-benzylthiocarbamoyl)-L-Cysteine



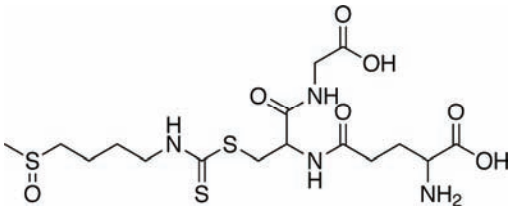
N-Acetyl-S-(N'-methylthiocarbamoyl)-L-cysteine



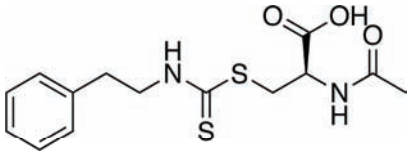
N-Acetyl-S-(N'-phenylhexylthiocarbomoyl)-L-cysteine



S-(N-Benzylthiocarbamoyl)-L-cysteine



S-(N-Methylsulfinylbutylthiocarbamoyl)-glutathione



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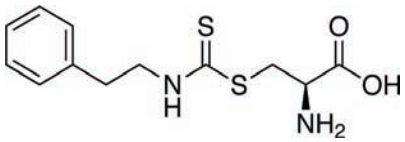

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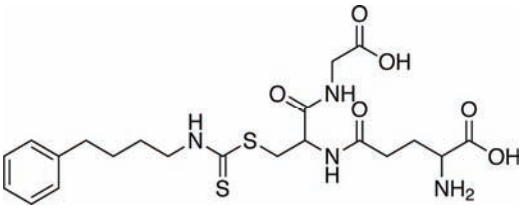
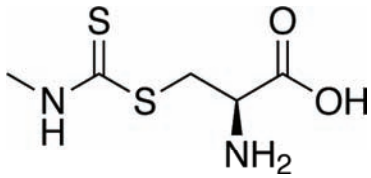


S-(N-Phenylbutylthiocarbamoyl)-glutathione



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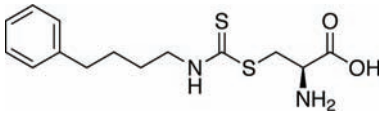

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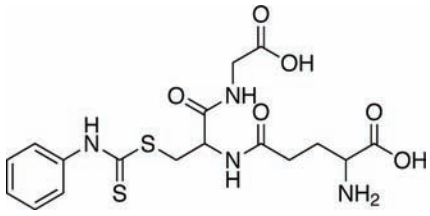
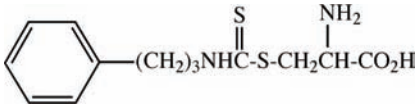


S-(N-Phenylthiocarbamoyl)-glutathione



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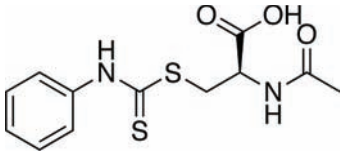

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