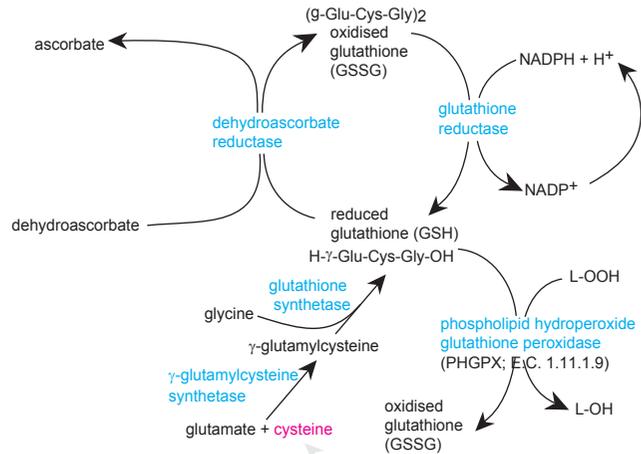


# cysteine

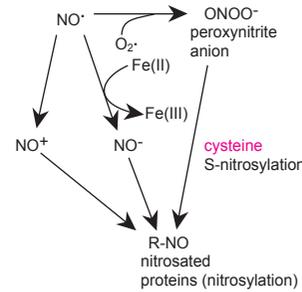
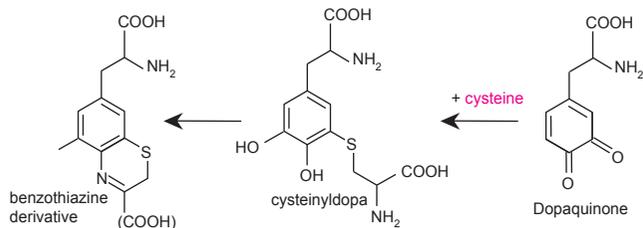
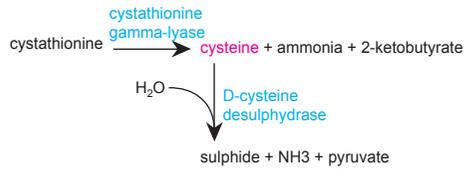
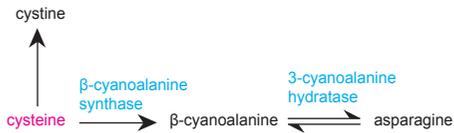
Gary D. Lyon

Comments and additional information should be sent to: GaryDavidLyon@gmail.com  
Chart can be viewed on the internet at www.potatometabolicpathways.webs.com

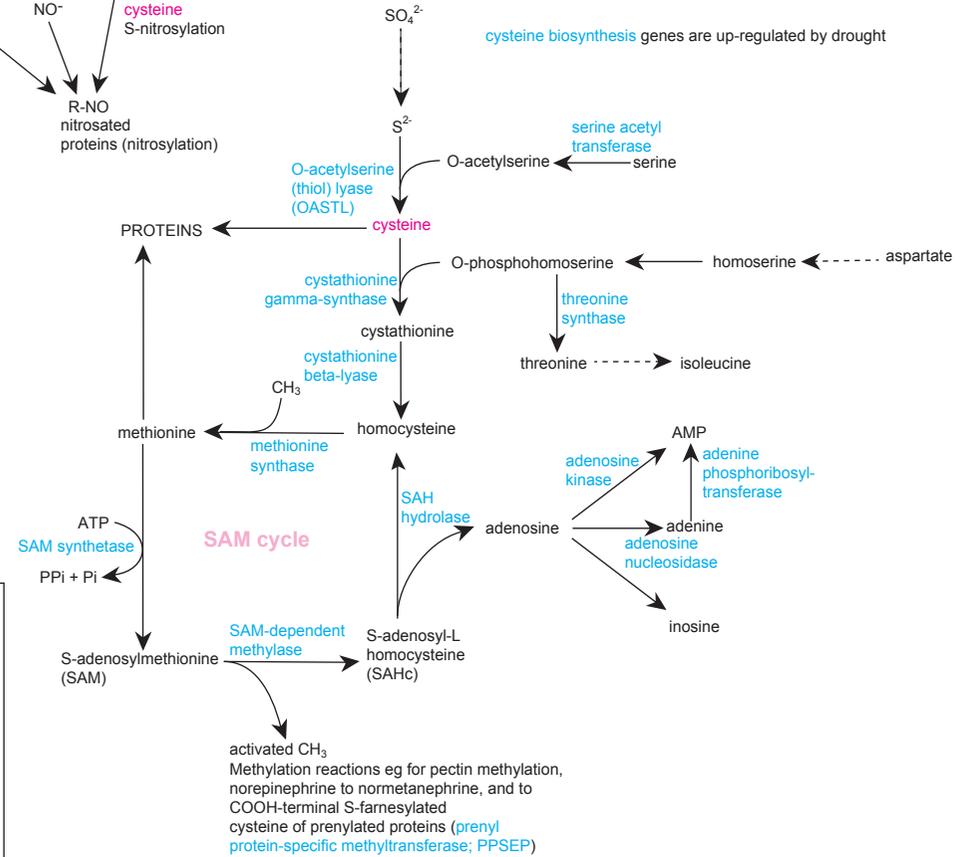
cysteine plays an important role in the immune response of Arabidopsis



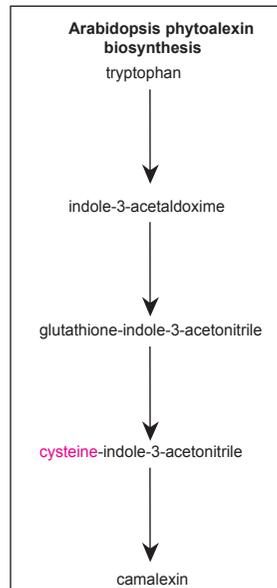
Sulfhydryl (SH or thiol) compounds such as **cysteine**, N-acetyl-L-cysteine, and reduced glutathione, as well as ascorbic and citric acids, are good inhibitors of PPO which catalyzes enzymic browning.



4-hydroxy-2-nonenal (HNE) originates from peroxidation of arachidonic acid and linoleic acids in eukaryotes. HNE reacts with thiols eg GSH, **cysteine**, and proteins containing thiol groups to form thioether adducts which undergo cyclization to form hemiacetals. HNE also reacts with other amino acids in proteins to form stable adducts.



cysteine biosynthesis genes are up-regulated by drought



Cystatin (a **cysteine** protease inhibitor) is induced in tomato by arachidonic acid and gamma linolenic acid.

CRKs are **cysteine**-rich receptor-like protein kinases

Plant defensins are small **cysteine**-rich peptides

Isoprenylation is a post-translational modification of proteins involving covalent attachment of an isoprenyl moiety (either farnesyl or geranylgeranyl) to the **cysteine** residue at the C-terminus of proteins. Prenylated proteins can be further modified by palmitoylation, COOH-terminal proteolysis and methylation. Most prenylated proteins are associated with signal transduction cascades.