

## Abstract

Light-driven incorporation of [ $^{14}\text{C}$ ]leucine (LEU) into protein in isolated pea chloroplasts was inhibited by 0.1 and 1 mM lysine (LYS), 0.1–10 mM threonine (THR) and 1 mM methionine (MET). Equimolar combinations of LYS plus THR were inhibitory at both 0.1 and 0.5 mM. Incorporation of [ $^{14}\text{C}$ ] aspartic acid (ASP) and [ $^3\text{H}$ ]tyrosine (TYR) was also reduced by 1 mM LYS or THR. In the cases tested, LYS and/or THR inhibitions were partially or fully reversed by 0.1 mM MET. [ $^{35}\text{S}$ ]MET incorporation was unaffected or stimulated by LYS and THR. These data are consistent with the hypothesis that MET is biosynthesized in isolated chloroplasts and that its synthesis is regulated by LYS and/or THR. Of 16 other amino acids tested at 1 mM, isoleucine, phenylalanine, tryptophan, tyrosine and valine inhibited protein synthesis.