

Abstract

In the last decade, it has become clear that the chloroplast is the main site, if not the sole site, for the biosynthesis of the nutritionally essential aspartate-derived amino acids (Fig. 1) in plant leaves [1,2]. For example, isolated intact chloroplasts carry out the light-driven synthesis of lysine, threonine, and isoleucine from labeled aspartic acid and malic acid [3]. This can be considered a photosynthetic process since ATP and NADPH produced in light are thought to be used directly (Fig. 1) to drive the synthetic reactions [3].