pyrophosphorylase was initially reported to contain only a single subunit of 55Kd [Plaxton and Preiss, 1987]. It is now known to be composed of two subunits, 54kd large subunit encoded by Sh2 and 51kd small subunit encoded by Bt2 [Giroux, 1992]. SDS-PAGE of the spinach leaf ADPglucose pyrophosphorylase revealed the presence of two polypeptides with molecular weight of 51Kd and 54Kd. These polypeptides were distinguishable on the basis of N-terminal sequences and immunological properties [Morell et al., 1987a; 1987b] and therefore are believed to be the products of different genes [Morell et al., 1988].

Using the antibodies raised to each of two subunits of the spinach leaf enzyme, maize endosperm mutants sh2 and bt2 showed that the mutant bt2 endosperm lacks the 55Kd subunit and the mutant sh2 endosperm lacks the 60Kd subunit on Western blots [Preiss et al., 1990]. These results strongly suggest that the maize endosperm ADPglucose pyrophosphorylase is composed of two immunologically dissimilar subunits and that the sh2 and bt2 mutations cause reduction in ADPglucose pyrophosphorylase activity through the lack of one of these two subunits.

Above data certainly indicate that ADPglucose pyrophosphorylase is composed of two subunits in the leaf tissue as well as in the reserve tissue, and on the basis of immunoreactivity there is similarity between the corresponding subunits.