Review of: "The algal PETC-Pro171-Leu suppresses electron transfer in the cytochrome b6f under acidic lumenal condition"

Potential competing interests: The author(s) declared that no potential competing interests exist.

In this study, authors introduced the Arabidopsis pgr1 mutation into Chlamydomonas reinhardtii (PETC-P171L) to analyze the effects of the mutation on photosynthetic control in the green alga. They found that there is a normal accumulation and electron flow activity in cells of the mutant grown under oxic conditions. However, unlike Arabidopsis pgr1 mutant, the mutant was impaired photoautotrophic growth under anoxic conditions. They suggest that the pH component in PETC-P171L is dependent on oxygen availability under light conditions and the mutant b6f was more restricted to oxidize the PQ pool and limited electron flow under low oxygen condition. The work provides additional information for the photosynthetic control in the green alga. The growth phenotype of PETC-P171L under anoxic conditions is interesting. Although the mechanism is remained to be elucidated, but worthy of publication.

Comments and suggestions

When abbreviations mentioned first time, please provide the full name, such as PSBS, LHCSR3.

Given that the protein amounts and photosynthetic activities are great different in the cells grow under different conditions. The figure legends need to state clearly the cultural condition and growth stage for sampling.

In Figure 7A, the bands of the western bott in PETC-P171L were shifted. Could you provide a normal one? Otherwise, it is better to include the Figure 7 in supplement information.