

**Supplementary Figure 1.** Representative A/Ci curves for determination of rate of dark respiration in the light (Rd) in SCoAL transgenic lines RL25 (A), RL40 (B) and wild type (C). CO<sub>2</sub> rate was determined as described by Häusler et al. (1999). CO<sub>2</sub> assimilation rates were measured at 22°C, relative humidity of 50% and limited PFDs (40 μmol m<sup>-2</sup> s<sup>-1</sup>, black circles, 80 μmol m<sup>-2</sup> s<sup>-1</sup>, white triangles and 120 μmol m<sup>-2</sup> s<sup>-1</sup>, black squares) under lower ambient CO<sub>2</sub> concentrations (50, 80, 100 and 200 μmol mol<sup>-1</sup>). The measurements were performed in four to five weeks old plants at identical developmental stages, using fully developed source leaves. For the statistical analysis of each determination a non-linear curve was fitted (second polynomial regression) to all three individual A/Ci curves. The intercepts of individual curve pairs were determined for all possible combinations of curve pairs and the mean values and standard deviations were calculated. Values are presented as mean of determination on five individual plants per line.

