

Fig. 1 Suppl. Cell length data distribution. *A* - control BY-2 stationary cells; *B* - Transgenic BY-2 cells with increased elongation resulting from overexpression of *NtHyPRP1* (from Dvorakova *et al.* 2012).

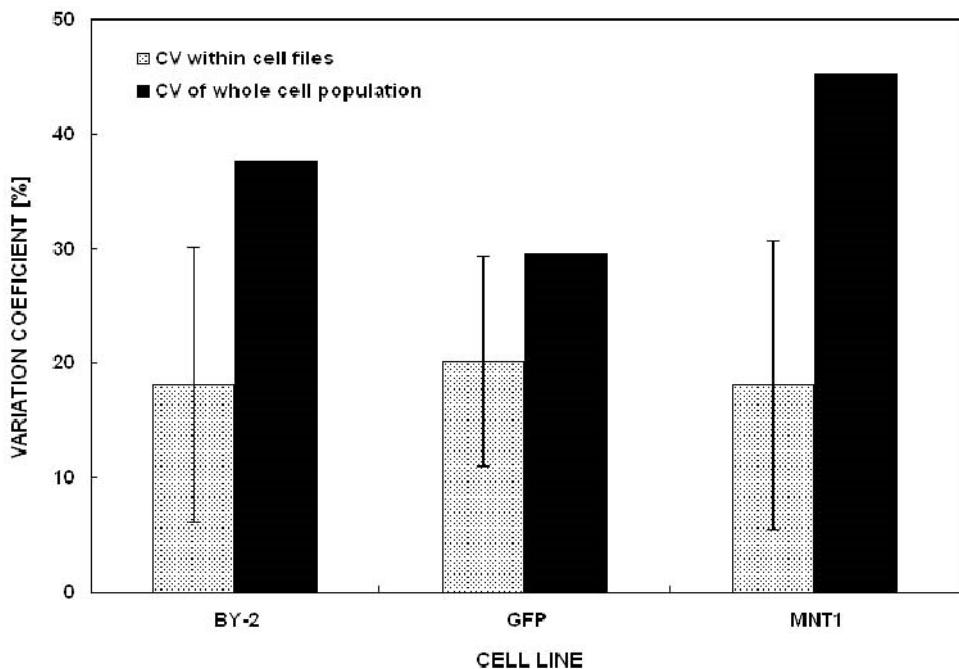


Fig. 2 Suppl. Variation of cell length within the whole cell population (solid black columns) and average variation of cells within individual cell files. The values are demonstrated for the wild type BY-2, and cell lines overexpressing GFP or modified *NtHyPRP1*; according to Dvorakova *et al.* (2012).

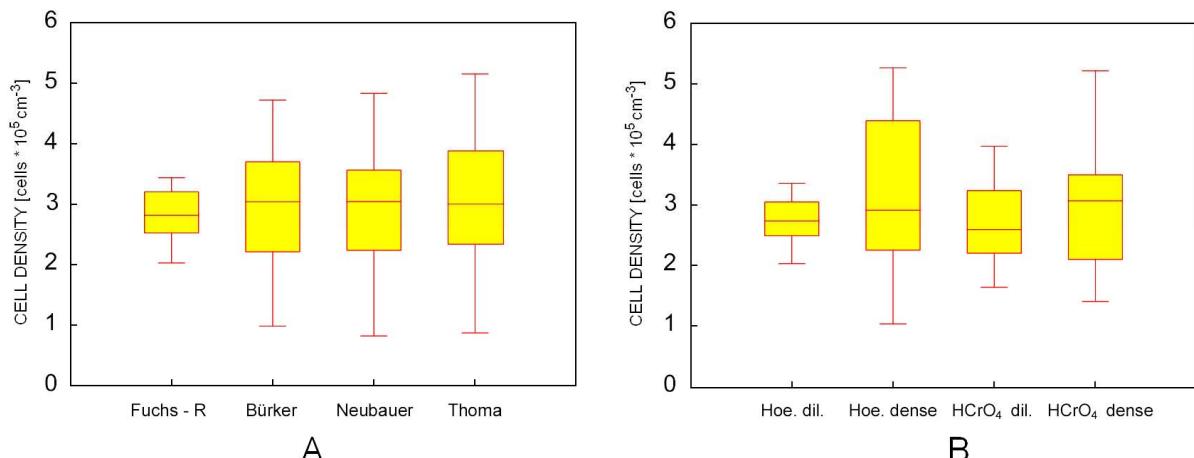


Fig. 3 Suppl. Cell density measurement. A - Box plots of density data obtained from four types of counting chambers: *Fuchs-Rosenthal* (recommended), *Bürker*, *Neubauer*, and *Thoma*. B - Box plots of density data obtained using the *Fuchs-Rosenthal* chamber and four different types of cell suspension treatment: Hoechst staining a diluted culture as recommended, Hoechst staining an undiluted (5 times denser) sample, HCrO₄?? treatment of diluted cells, HCrO₄?? treatment of an undiluted (5 times denser) sample.

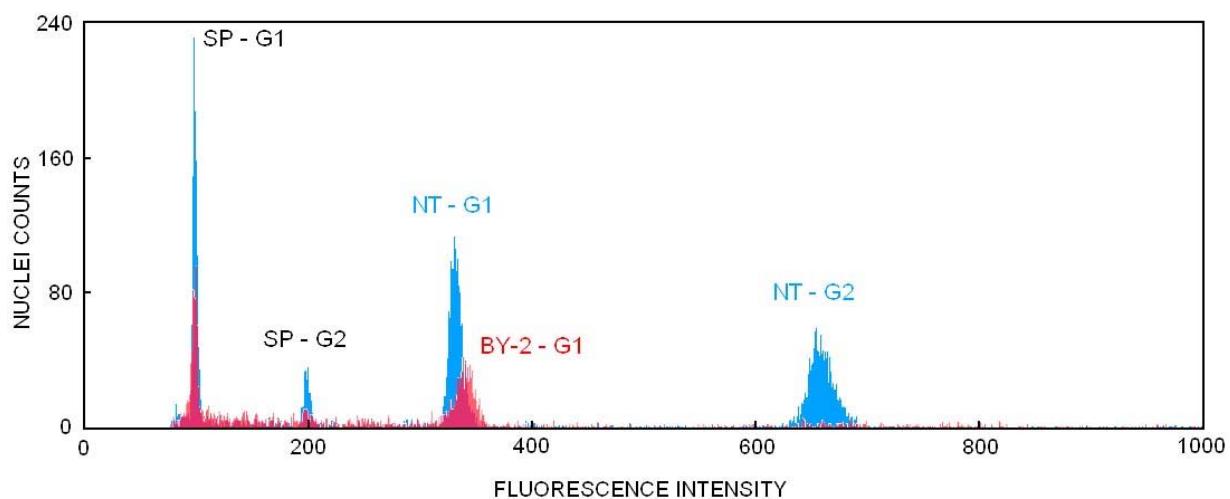


Fig. 4 Suppl. Estimation of nuclear DNA content. Flow-cytometry comparison of DNA content in tobacco BY-2 cells (BY-2) and tobacco (*Nicotiana tabacum* cv. Samsun) leaf cells (NT). Standardized to nuclei of *Solanum pseudocapsicum* (SP). G1 and G2 - respective phases of the cell cycle.

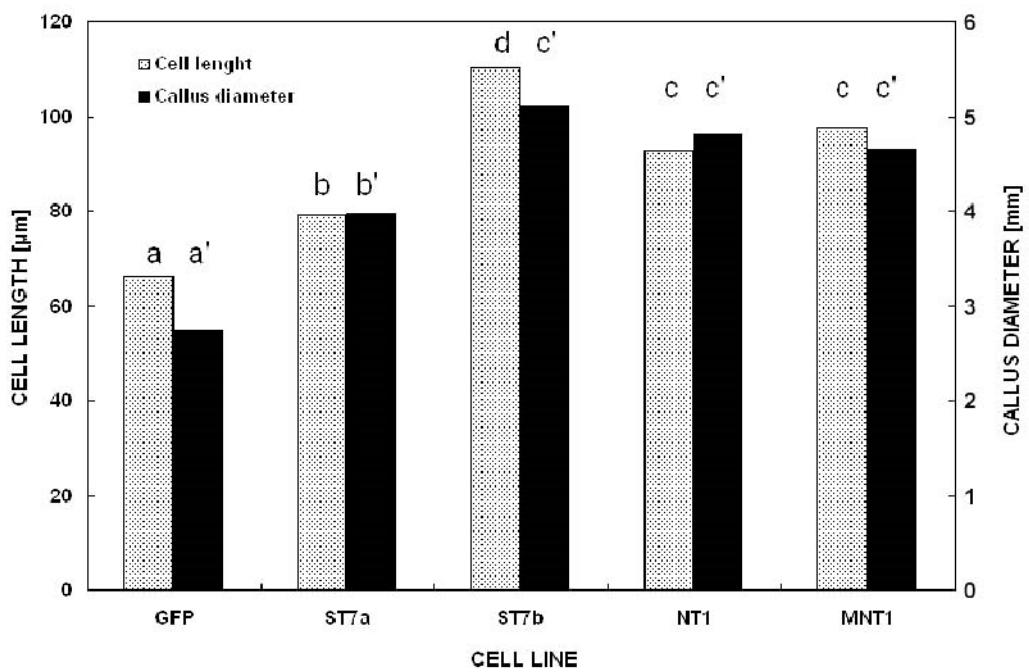


Fig. 5 Suppl. Cell lengths and callus diameters in different cell lines. *Dotted columns* indicate the average cell length, *solid black columns* indicate the average diameter of *calli* of each cell line. Letters above the columns indicate statistical significance of observed differences among cell lines: the cell line overexpressing GFP, and four lines expressing genes encoding cell-wall proteins ST7 (two lines), NtHyPRP, and modified NtHyPRP1 (two lines) according to Dvorakova *et al.* (2012).