Dry mass determination with PBS vs. 0.9% NaCl

CHO-K1 cells were grown in CD-CHO with 8mM glutamine and 0.2% (v/v) anti-clumping agent. On day 3 of the cultivation, cell dry mass was determined according to the protocol in [1] with PBS and 0.9% (w/w) NaCl, both in triplicates. Beakers with dry cells and controls were weighed daily until the weight was stable. Figure 1 shows the cell dry mass per cell vs. the day of drying. When 0.9% NaCl is used, the weight stabilizes already after one day. With PBS it takes at least one week until the weight is stable, most likely due to the presence of Na_2HPO_4, which can form hydrates (2, 7, 8, and 12 hydrates) and therefore take longer to dry. However, when the weight stabilizes, the final values are comparable.

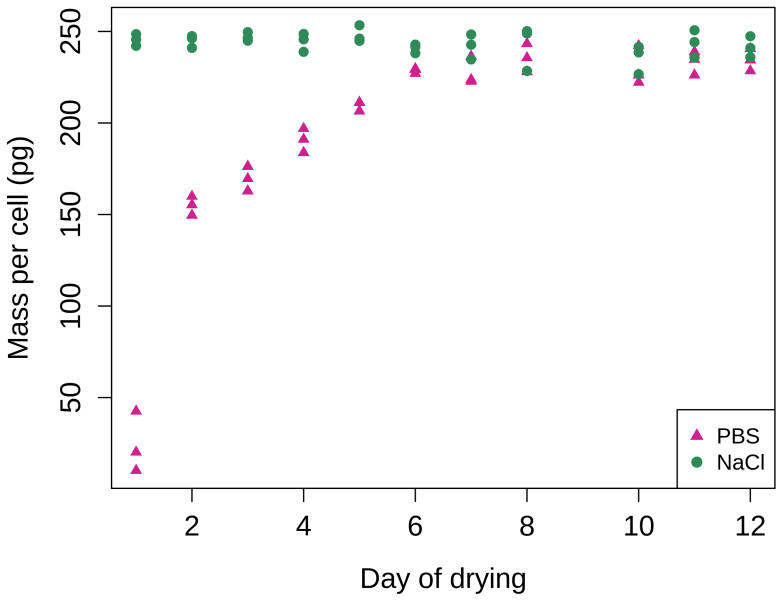

Figure 1: Dry mass per cell vs. day of drying determined with protocol that uses either PBS or 0.9% NaCl

References

[1] D. Széliová, H. Schoeny, Špela Knez, C. Troyer, C. Coman, E. Rampler, G. Koellensperger, R. Ahrends, S. Hann, N. Borth, J. Zanghellini, and D. E. Ruckerbauer, "Robust analytical methods for the accurate quantification of the total biomass composition of mammalian cells," in *Metabolic Flux Analysis in Eukaryotic Cells* (D. Nagrath, ed.), Methods in Molecular Biology, pp. 119–160, New York, NY: Springer New York, 2020.