

Table I. Comparison of reported maximum dry cell weight (DCW) of miniature bioreactors for parallel operation.

System	pH control	Operation mode	Volume (mL)	Aeration	DCW (g L ⁻¹)	Reference
Gas-inducing bioreactor	Yes	Fed-batch	5	Air	20.5	This work
Shake flask	Yes	Fed-batch	100	Air	5.1	Weuster-Botz (2001a)
Bubble column (Profors, Infors, Bottmingen, Switzerland)	Yes	Batch	200	Air	12.5	Dilsen (2001)
Shaken deepwell 96-well MTP	No	Batch	0.75	Air	9	Duetz et al. (2000)
Stirred plastic cuvette	No	Batch	2.5	Air	2.3	Kostov (2001)
Miniature stirred-tank bioreactor	No	Batch	6	Air	1.6	Lamping (2003)

- Dilsen S, Paul W, Herforth D, Sandgathe A, Altenbach-Rehm J, Freudl R, Wandrey C, Weuster-Botz D. 2001. Evaluation of parallel operated small-scale bubble columns for microbial process development using *Staphylococcus carnosus*. *J Biotechnol* 88:77–84.
- Duetz WA, Ruedi L, Hermann R, O'Connor K, Büchs J, Witholt B. 2000. Methods for intense aeration, growth, storage, and replication of bacterial strains in microtiter plates. *Appl Environ Microbiol* 66: 2641–2646.
- Kostov Y, Harms P, Randers-Eichhorn L, Rao G. 2001. Low-cost microbioreactor for high-throughput bioprocessing. *Biotechnol Bioeng* 72:346–352.
- Lamping SR, Zhang H, Allen B, Shamlou PA. 2003. Design of a prototype miniature bioreactor for high throughput automated bioprocessing. *Chem Eng Sci* 58:747–758.
- Weuster-Botz D, Altenbach-Rehm J, Arnold M. 2001a. Parallel substrate feeding and pH-control in shaking-flasks. *Biochem Eng J* 7:163–170.