

Table 1  
Highest cell densities by various propagation techniques of *E. coli*

| Propagation technique  | Basic medium  | C source                                 | Yield; g dcw/l | Reference   |
|--|---|--|----------------|---|
| <i>Fed batch</i>   |   |  |                |   |
| 1. Exponential growth  | Semi-defined<br>Medium yeast<br>Extract                   | Glucose                                  | 54             | Shiloach and Bauer,<br>1975                       |
| 2. Carbon source<br>defended<br>linear growth                              | Defined<br>Minimal medium                                 | Solid glucose                            | 134            | Neidhardt et al.,<br>1974;<br>Matsui et al., 1989 |
|  | Defined<br>Minimal medium                                 | Glucose<br>Citric acid                   | 104            | Riesenberg et al.,<br>1990                        |
|  | Defined<br>Minimal medium                                 | Glycerol<br>Glucose                      | 148<br>128     | Korz et al., 1995                                 |
|  | Protein hydrolyzate<br>and yeast extract                  | Glycerol                                 | 84             | Macaloney et al.,<br>1996                         |
| 3. Slow linear growth<br>to keep acetate<br>concentration close<br>to zero | Defined minimal<br>medium                                 | Low glucose<br>Glycerol                  | 145            | Horn et al., 1996                                 |
| <i>Dialysis</i>  |   |  |                |   |
| 1. Membrane dialysis<br>reactor  | Against complete<br>growth medium<br>Against basal medium | Glycerol                                 | 174            | Märkl et al., 1993                                |
| 2. "Nutrient-split"<br>feeding   | Against buffer salt<br>solution                           | Glycerol<br>Separate glycerol<br>feeding | 190<br>150     | Nakano et al., 1997<br>Ogbonna and Märkl,<br>1993 |