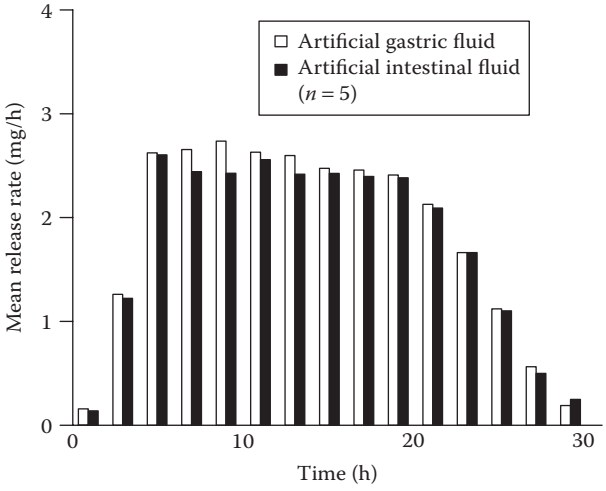

FIGURE 22.10 A zero-order release profile with release duration of 24 h and independent of the pH of the dissolution medium. (Adapted from Wong, P. et al., in *Modified-Release Drug Delivery Technology*, Rathbone, M.J. et al. (Eds.), Osmotically Controlled Tablets, New York: Marcel Dekker, p. 107, 2003.)

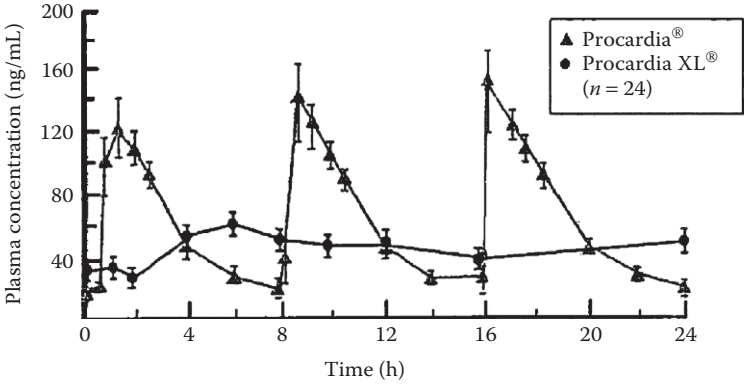

FIGURE 22.11 Steady-state plasma profiles of immediate-release nifedipine (three times a day) and Procardia XL® on day 5. (Adapted from Wong, P. et al., in *Modified-Release Drug Delivery Technology*, Rathbone, M.J. et al. (Eds.), Osmotically Controlled Tablets, New York: Marcel Dekker, p. 107, 2003.)

of two layers, typically in a capsule-shaped tablet surrounded by a semipermeable membrane; however, the system has a much larger exit orifice than the Push-Pull™ systems to allow for delivery of insoluble drug suspended in a hydrophilic polymer. Depending on the physicochemical properties of the drug, a subcoat between the tablet and the semipermeable membrane can be applied to ease and facilitate the optimum delivery. In addition, wetting agent(s) and/or solubilizing agent(s) such as sodium lauryl sulfate (SLS), Poloxamer 188, and Poloxamer 407 (BASF, Florham Park, NJ) can be used to enhance the dissolution rate and, therefore, oral absorption. Such a delivery system containing 85 wt% ibuprofen was prepared by using a similar drug and push layer granulation and compression and coating processes similar to those in the Push-Pull™ delivery system (Cruz et al. 2005).

L-OROS® Drug Delivery System

L-OROS® drug delivery technology, a proprietary controlled-release delivery system invented by ALZA Corporation (Mountain View, CA), combines drug solubilization technology enabling