

Appendix 2 –Return on Investment simulation

Baseline benchmark	Base case e-IRR	
Estimated late stage portoflio ROI (cost of capital)	11.0%	14.0%
R&D spend (M \$)	\$65	\$65
Post tax earnings 10 y later	\$185	\$241
tax rate	35%	35%
10 y Pre tax earnings (M \$)	\$284	\$371
trading margin (excl R&D)	40%	40%
required incremental sales 10 years later(M \$)	\$473	\$618

Rare diseases Simulation Case study		
Estimated late stage portoflio ROI (cost of capital)	11.0%	14.0%
Rare diseases companies annual R&D cumulated spend 2011 (M \$)(*)	\$2 871	\$2 871
Post tax earnings 10 y later	\$8 153	\$10 645
tax rate	35%	35%
10 y Pre tax earnings (M \$)	\$12 543	\$16 376
trading margin (excl R&D)	40%	40%
required incremental sales 10 Y later	\$20 905	\$27 294
(*) Actelion, Alexion, Biomarin, Dyax, Enzon, Genzyme, Shire, Sobi, United Therapeutics, Viropharma		
Corresponding 10 y CAGR	5%	8%