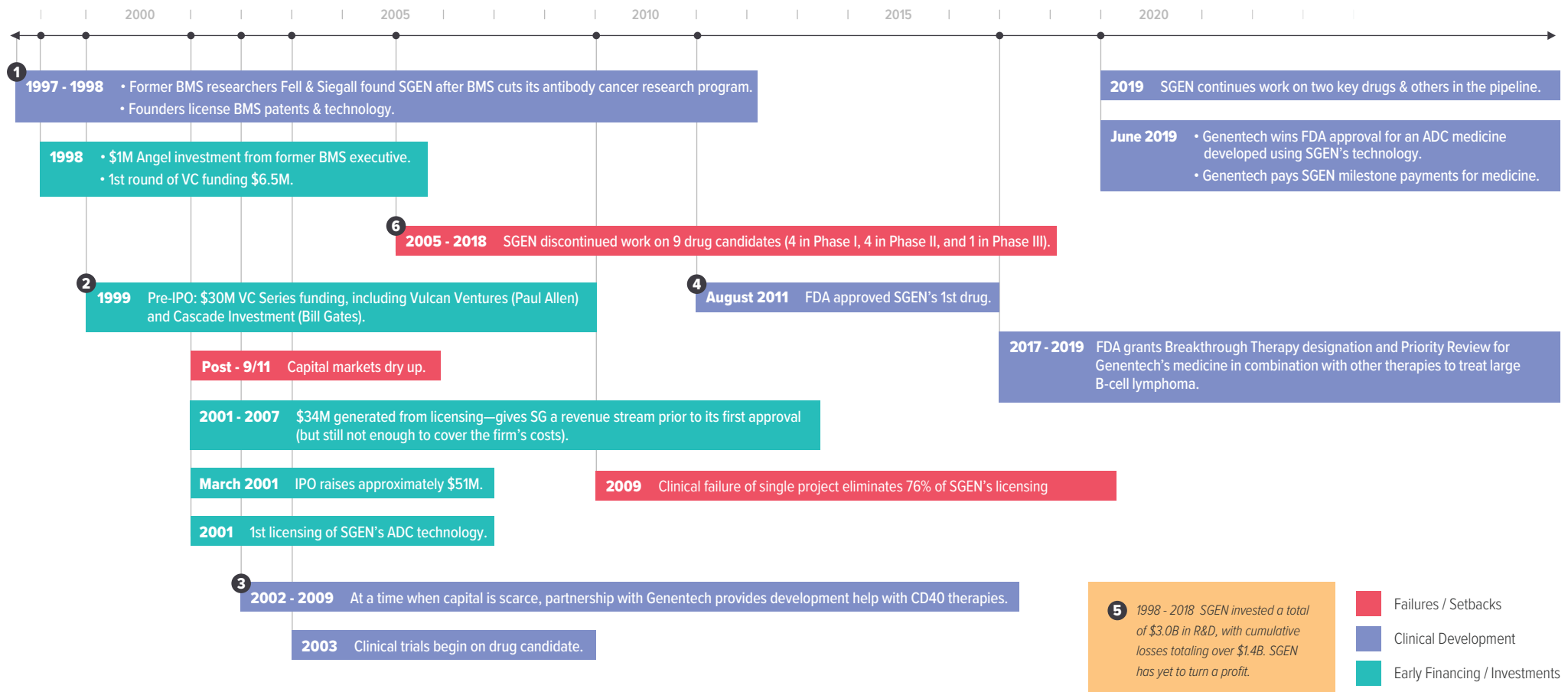


THE LONG, UNCERTAIN AND EXPENSIVE ROAD FOR BIOPHARMACEUTICAL START-UPS

The Case of Seattle Genetics (SGEN)



1 INTELLECTUAL PROPERTY RIGHTS ARE CRITICAL

Intellectual property protections create a framework of incentives biopharmaceutical developers need to undertake their uncertain research efforts. Seattle Genetics executives agreed that without IP protections, advancing their ADC technology could likely not have been done.

2 VENTURE CAPITAL 'PRIMES THE PUMP'

VC investors provided the early financial lift that enabled Seattle Genetics to get off the ground. The \$37 million raised from early venture investors was the only financial resource Seattle Genetics could draw upon for its first two years, before the company went public or obtained its first dollar of revenue from licensing technology.

3 PARTNERSHIPS ARE CRUCIAL

Partnerships with others in the biopharmaceutical ecosystem were a crucial factor in sustaining Seattle Genetics, giving them access to additional scientific expertise and marketing distribution channels. Seattle Genetics licensed early technology from corporate and university partners to establish leadership in the field of antibody-drug conjugates, and subsequent licensing deals with additional partners provided an income stream during the long period when Seattle Genetics had no approved products on the market.

4 THE ODDS ARE DAUNTING

Between 1998 and 2018, Seattle Genetics succeeded in bringing to market one new product out of at least 17 R&D projects.

5 REVENUES ARE REINVESTED INTO R&D

Seattle Genetics has been in operation for 20 years but has yet to turn a profit. The company has plowed most of its cash back into R&D. In fact, Seattle Genetics has invested more in R&D than it has earned in revenue, \$3.1 billion compared to \$3.0 billion since its inception.

6 "FAILURE" IS VALUABLE

Developmental setbacks still yield useful information that can lead to new insights into treatment pathways or be picked up by other researchers who look at a problem in a different way in light of previous experience. In the case of Seattle Genetics, this dynamic led to a breakthrough in the development of a new antibody-drug conjugate to treat cancer, the result of a development project that had been previously discontinued by another firm.