BIO-Europe 2011: Early stage oncology deals

Early stage oncology deal making remains popular at match making events like the BIO-Europe convention next week. Since knowledge of historical deal information is a crucial prerequisite for deal negotiation, we have performed a 10-year analysis of more than 100 research alliances and preclinical therapeutic oncology deals listed in the Biotechgate Licensing Deals database.

*By Karin Bakker, October 2011**

While antibody collaborations have been a constant factor in the deal making area through the last 10 years, more recently, bi-specific antibody technologies seem to have become attractive for pharma companies. Zymeworks, MacroGenics and Micromet are all using their proprietary bi-specific antibody technologies to establish early stage oncology deals. While upfront payments from Bayer Schering Pharma and Boehringer Ingelheim for one BiTE antibody to Micromet were comparable and below USD 10 million, potential milestone payments differ for the respective antibodies. This is expected to be at least partly due to the different potential indications. Potential regulatory milestones of up to USD 66 million could be received from Boehringer Ingelheim for a multiple myeloma BiTE antibody, while Bayer Schering Pharma is willing to pay Micromet up to a total of USD 384 million in potential milestones for their BiTE antibody for advanced prostate cancer.

Epigenetics is another field, which is becoming attractive in deal making, with private companies often acting as licensors. Private Epizyme closed two oncology research alliances in the first quarter of 2011 with big pharma companies Eisai and GlaxoSmithKline. This is also the second epigenetics drug discovery deal in 2 years for GlaxoSmithKline. Double digit royalties are often applicable in epigenetics collaborations, while milestones range from slightly less than USD 200 million to USD 630 million, depending on the number of products and diseases covered by the collaboration.

Successful research alliances were identified for several companies in the Biotechgate Licensing database. Back in 2006 Exelixis established a research alliance with Bristol-Myers Squibb, providing Bristol-Myers Squibb with the right to select up to three IND candidates from 6 future Exelixis compounds. For every IND candidate selected USD 20 million would be paid, with total milestones of USD 260 million per candidate and double digit royalties. In 2008 two IND candidates were selected by Bristol-Myers Squibb. Rights to the third candidate were waived by Bristol-Myers Squibb in 2010, when they obtained rights to another research program outside the oncology field from Exelixis for which Exelixis will potentially receive milestones totaling USD 405 million.

Another example of a company successfully establishing drug discovery and development deals is Aveo Pharmaceuticals. Through the years 2007-2011, Aveo Pharmaceuticals has closed early stage oncology deals with Merck & Co (Schering-Plough), Astellas Pharma (OSI Pharmaceuticals), Biogen Idec and Johnson & Johnson. All collaborations make use of Aveo's proprietary Human Response Platform™ for the discovery and development of new cancer drugs. Although the deals were closed for different targets and development phases, the upfront payments were all found to be around USD 7.5 million. Equity payments were also applicable for all four deals.

Potential deal values for early stage deals are higher when big pharma is involved. An extraordinary example found in the Biotechgate Licensing database is related to two deals on cell cycle modulators. Back in 2003 Dainippon Sumitomo Pharma (Dainippon) closed a worldwide deal with Sunesis Pharmaceuticals for its preclinical cell cycle inhibitor vosaroxin. Two years later Novartis licensed a preclinical cell cycle modulator from Astex Therapeutics, which included an option to two additional cell cycle inhibitor compounds. While Dainippon obtained an upfront fee of USD 0.7 million and will obtain a total of USD 10 million in milestones, Astex received a combined upfront and equity payment of USD 25 million and will receive USD 495 million in potential milestones based on the commercialization of three compounds.

Surprisingly, variations of more than 100% in potential deal sizes for worldwide deals with big pharma for preclinical compounds from similar compound classes were found. While the potential deal between Rigel Pharmaceuticals and Merck Serono for Rigel's preclinical aurora kinase inhibitor including back-up products was valued at USD 163 million, a year earlier Merck & Co was willing to offer Vertex Pharmaceuticals USD 384 million for its preclinical aurora kinase inhibitor including follow-ons.

**Karin Bakker is the managing director of PharmaPlus Consultancy, a specialist in licensing related services in the Life Sciences field. PharmaPlus has monitored and collected Licensing Deal information since 1996, which are available online in Biotechgate. The Biotechgate Licensing Deals database contains almost 1350 therapeutic deals over a 16 year period from small company licensors to leading licensees. The database only contains deals on therapeutics with at least one financial component. Each deal entry is categorized and searchable by licensor, licensee, indication, compound details, compound name, development stage (research – filed for regulatory approval), licensed territory, potential deal size, upfront, total milestone payments, regulatory milestone payments, sales milestones payments, royalties on sales, research funding, equity and by year of deal establishment. More information is available at www.biotechgate.com/deals*