BIO 2011: Deal-making in the Antibody Space

More than 150 antibody products and technologies will be offered for partnering at the BIO International convention later this month. The majority of these products are in early stage through to phase II of development. Since knowledge of historical deal information is a crucial prerequisite for deal negotiation, we have examined over 150 therapeutic antibody deals listed in the Biotechgate Licensing Deals database to compile this detailed analysis as well as a view of the trends.

*By Karin Bakker, June 2011**

Antibody drug discovery alliances are based on the use of the licensor's proprietary technologies for the identification of new antibody therapeutics. These type of alliances are almost always established on a worldwide basis. Ablynx, MorphoSys and Regeneron Pharmaceuticals are examples of licensors, which have closed several research alliances over the years. While, in the past, Regeneron has used a comparable deal structure for different deals with different partners for the use of its VelocImmune® technology (mid-single royalties, 5 yearly milestones of USD 20 million each, no equity), Ablynx established additional deals with former licensees and is one of the few licensors that has negotiated a profit sharing option instead of royalties for nanobodies identified and developed under its research alliances.

Trends were also found for big pharma licensees. In antibody research alliances, GlaxoSmithKline was often found to offer double digit royalties. Boehringer Ingelheim seems to prefer research alliances with smaller biotechnology companies. Boehringer's research alliances focus on up to 10 programs/products per alliance, with milestone payments per product or programme sometimes exceeding USD 200 million. Equity payments are limited and profit sharing does not seem to be an option for Boehringer Ingelheim.

Due to the nature of a research alliance, milestone payments can already be applicable in very early stages of development, e.g. upon cell line delivery to the licensee or upon selection of a lead candidate. These early milestone amounts could be as high as USD 5 million.

Because preclinical antibody deals often cover less products than research alliances, upfront payments were found to be comparable or, often, even lower than for research alliances, even for deals with worldwide coverage. In the Biotechgate Licensing Deals database, upfront payments for preclinical antibodies were below USD 10 million in the majority of cases. Once again, some licensors showed specific deal structure trends. Micromet, for example, obtained comparable upfront payments of around USD 5 million for several preclinical oncology- and autoimmune-related antibodies from different licensees.

Upfront payments for phase I antibody licensing deals in the oncology field were at least doubled compared to preclinical antibody deals and ranged from USD 13 to USD 70 million depending on the licensee, number of indications covered, potential back-up compounds and the year of deal closure. In the last 3 years total milestones for worldwide phase I antibody deals amounted to USD 630 million.

Surprisingly, upfront payments in worldwide deals did not differ substantially for phase II antibody licensing deals compared to phase I antibody licensing deals. The effect of the development phase on the potential deal value is further demonstrated by the following example of deals covering similar antibodies for the same indications. Between 2005 and 2008, three worldwide licensing deals for anti-CD3 antibodies for diabetes type 1 were established with different big pharma licensees. In 2005 Novimmune licensed both a

preclinical anti-CD3 and a preclinical anti-interferon gamma antibody to Merck Serono for diabetes, Crohn's disease, multiple sclerosis, rheumatoid arthritis and lupus. With Novimmune responsible for development through phase II, milestones payments for all indications totalled USD 105 million (upfront, total milestones and equity USD 117.5 million). Two years later Tolerx obtained USD 150 million in diabetes-related regulatory milestones for its phase II anti-CD3 antibody from GlaxoSmithKline (upfront, total milestones and equity USD 605 million including additional indications), while Eli Lilly & Company paid MacroGenics USD 200 million in diabetes-related regulatory and USD 250 million in diabetes-related sales milestones for its anti-CD3 antibody in phase II/III development (upfront, total milestones and equity USD 1.1 billion).

**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 more than 1300 therapeutic deals over a 15 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*

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