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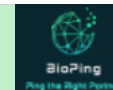
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| Deal Date | Seller                      | Buyer  | Kind of Transaction                              | Satge of Dev.            | Deal Information  | Disease Area                             | Upfront (\$M) | Equity (\$M) | Clinical / Reg. Milestones (\$M) | Other Milestones (\$M) | Commercial Payments (\$M) | Total Deal (\$M) |
|-----------|-----------------------------|--|--|--------------------------|---|--|---------------|--------------|----------------------------------|------------------------|---------------------------|------------------|
| 05/2024   | AC Immune                   | Takeda   | Dev., License, Option                            | Phase II                 | Dev. of amyloid beta (Aβeta), including ACI-24.060 for Alzheimer's disease                | Central Nervous System                   | 100           | --           | --                               | --                     | 2,100                     | 2,200            |
| 05/2024   | OnKure                      | Reneo Pharmaceuticals                          | Acquisition, Dev.                                | Phase I                  | Reneo Pharmaceuticals merger agreement with OnKure  | Cancer                                   | --            | --           | --                               | --                     | --                        | 120              |
| 05/2024   | Maze Therapeutics           | Shionogi                                       | Dev., License, Research                          | Orphan Indic.            | Dev. of MZE001 for Pompe disease  | Other/Miscellaneous                      | 150           | --           | --                               | --                     | --                        | 150              |
| 05/2024   | Gossamer Bio                | Chiesi Group                                   | Co-Market, Co-Promotion, Dev., License, Research | Phase II                 | Dev. of Seralutinib for PAH, PH-ILD & Other Indic.s                                       | Respiratory                              | --            | --           | 306                              | --                     | 180                       | 486              |
| 05/2024   | Agenus                      | Ligand   | Dev., Research                                   | Phase III                | Dev. of botensilimab and balstilimab (BOT/BAL) for Colorectal cancer and liver metastases | Cancer                                   | --            | --           | --                               | --                     | --                        | 125              |
| 05/2024   | Eiger Biopharma             | Sentynl Therapeutics                           | Asset Purchase, Co-Market                        | Approved                 | Worldwide proprietary rights to Zokinvy for Hutchinson-Gilford Progeria Syndrome          | Other/Miscellaneous                      | --            | --           | --                               | --                     | --                        | 45               |
| 04/2024   | Flugen, Predictive Oncology | Department of Defense                          | Dev., Research                                   | Phase II                 | Dev. of First-of-Its-Kind Intranasal for M2SR flu vaccine                                 | Infectious-Viral                         | --            | --           | --                               | --                     | --                        | 6                |
| 04/2024   | Epygenix Therapeutics       | Harmony Biosciences                            | Acquisition, Asset Purchase                      | Phase III, Orphan Indic. | Harmony Biosciences acquired CNS assets from Epygenix Therapeutics                        | Central Nervous System                   | 35            | --           | 130                              | --                     | 515                       | 680              |
| 04/2024   | Repertoire Immune Medicines | Bristol Myers Squibb                           | Co-Market, Dev., Research                        | Discovery                | Using DECODE platform to develop Tolerizing vaccines for autoimmune diseases              | Autoimmune/Inflammatory                  | 65            | --           | --                               | --                     | 1,800                     | 1,865            |
| 04/2024   | BioVie                      | Department of Defense                          | Dev., Research                                   | Phase II                 | Dev. of Evaluate Bezisterim (NE3107) for the treatment of Long COVID                      | Central Nervous System, Infectious-Viral | --            | --           | --                               | --                     | --                        | 13               |
| 04/2024   | Allogene Therapeutics       | California Institute for Regenerative Medicine | Dev., Research                                   | Phase I                  | Dev. of ALLO-316 for metastatic renal cell carcinoma (RCC)                                | Cancer                                   | --            | --           | --                               | --                     | --                        | 15               |
| 04/2024   | Rapamycin                   | Biodexa  | Co-Market, Dev., License, Sublicense             | Phase III                | Develop, manufacture, and commercialization eRapa   | Other/Miscellaneous                      | --            | --           | --                               | 17                     | 42                        | 59               |
| 04/2024   | Cidara Therapeutics         | Mundipharma                                    | Asset Purchase                                   | Phase III                | Asset purchase agreement for the divestiture of rezafungin                                | Infectious-Miscellaneous                 | --            | --           | --                               | 128                    | --                        | 128              |
| 04/2024   | TreeFrog                    | Vertex   | Dev., Research                                   | Phase I                  | Dev. of cell therapies VX-880 for type 1 diabetes   | Endocrinological & Metabolic             | 25            | --           | --                               | --                     | 540                       | 780              |
| 04/2024   | Immedica Pharma             | Impilo, KKR                                    | Acquisition, Asset Purchase                      | Orphan Indic.            | KKR acquired Immedica Pharma  | Other/Miscellaneous                      | --            | --           | --                               | --                     | --                        | 4,000            |
| 04/2024   | Kumquat Biosciences         | Takeda   | Co-Dev., License, Option, Research               | Phase I                  | Develop and commercialize a novel immuno-oncology small molecule inhibitor                | Cancer                                   | 130           | --           | --                               | --                     | 1,200                     | 1,330            |
| 04/2024   | MedinCell                   | AbbVie   | Co-Dev., Co-Market, Co-Promotion, Dev., License  | Preclinical              | Dev. of LAI technology for six therapeutic products multiple therapeutic areas & Indic.s  | Unlimited                                | 35            | --           | --                               | --                     | 1,900                     | 1,935            |
| 04/2024   | Varian                      | Windtree Therapeutics                          | Acquisition, Asset Purchase                      | Phase II                 | Windtree acquired Varian Biopharma  | Cancer                                   | --            | --           | --                               | --                     | 2                         | 4                |
| 04/2024   | Caris Life Sciences         | Merck KGaA                                     | Co-Market, Dev., Research                        | Discovery                | Discovery and Dev. of first-in-class antibody-drug conjugates for cancer patients         | Cancer                                   | --            | --           | --                               | --                     | 1,400                     | 1,400            |
| 04/2024   | ProfoundBio                 | Genmab   | Acquisition                                      | Phase II                 | Genmab acquired ProfoundBio   | Cancer                                   | --            | --           | --                               | --                     | --                        | 1,800            |
| 04/2024   | Sutro Biopharma             | Ipsen  | Co-Market, Dev., License                         | Phase I                  | Exclusive global licensing agreement for STRO-003 for cancer                              | Cancer                                   | --            | --           | --                               | --                     | --                        | 900              |
| 03/2024   | Xilio Therapeutics          | Gilead Sciences                                | Co-Market, Dev., License, Research               | Phase I                  | To develop and commercialize Xilio's Phase 1 tumor-activated IL-12 program, GTX301        | Cancer                                   | 30            | 14           | --                               | --                     | --                        | 648              |
| 03/2024   | Kazia Therapeutics          | Sovargen                                       | Co-Market, Co-Promotion, Dev., License, Services | Phase II                 | Dev. of paxalisib for FCD T2 and TSC disease  | Central Nervous System                   | 2             | --           | --                               | --                     | 19                        | 21               |
| 03/2024   | Fusion Pharmaceuticals      | AstraZeneca                                    | Acquisition, Asset Purchase                      | Phase II                 | AstraZeneca acquired Fusion Pharmaceuticals   | Cancer                                   | --            | --           | --                               | --                     | --                        | 2,400            |
| 03/2024   | Fennec Pharmaceuticals      | Norgine  | Co-Market, License                               | Approved                 | Commercialize PEDMARQSI in Europe, Australia and New Zealand                              | Cancer                                   | --            | --           | --                               | --                     | --                        | 272              |
| 03/2024   | Eloxx Pharmaceuticals       | Almirall                                       | Co-Market, Dev., License                         | Phase I                  | Develop and commercialize ZKN-013 for rare dermatological and other diseases              | Dermatologic, Other/Miscellaneous        | 3             | --           | --                               | --                     | 470                       | 473              |
| 03/2024   | FunPep                      | Shionogi                                       | Co-Market, Dev., License, Option, Research       | Preclinical              | Option agreement for FPP004X for the treatment of seasonal allergic rhinitis              | Allergic                                 | 2             | --           | --                               | --                     | 121                       | 124              |

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| 03/2024   | Sosei Heptares                       | Boehringer Ingelheim                           | Dev., License                                    | Phase II             | Dev. of G protein-coupled receptor (GPCR) for schizophrenia  | Psychiatric                                  | 27            | --           | --                               | --                     | 66                        | 826              |
| 03/2024   | Calidi Biotherapeutics, City of Hope | California Institute for Regenerative Medicine | Dev., Joint Venture, Research                    | Preclinical          | Using Calidi's lead asset, CLD-101 to develop a treatment for metastatic ovarian cancer            | Cancer                                       | --            | --           | --                               | --                     | --                        | 5                |
| 03/2024   | C4 Therapeutics                      | Merck KGaA                                     | Co-Market, Dev., License, Research               | Discovery            | License and collaboration agreement for two targeted protein degraders against oncogenic proteins  | Cancer                                       | 16            | --           | --                               | --                     | 740                       | 756              |
| 03/2024   | Adaptive Phage Therapeutics          | BiomX  | Acquisition, Asset Purchase                      | Phase II             | Merger Agreement and concurrent financing for two phase 2 assets BX004 and BX211                   | Infectious-Bacterial                         | --            | --           | --                               | --                     | --                        | 50               |
| 03/2024   | Merus BV                             | Gilead   | Dev., License, Option, Research                  | Preclinical          | Discover dual tumor-associated antigens targeting trispecific antibodies using Triconics platform  | Cancer                                       | 56            | 25           | --                               | --                     | 1,500                     | 1,556            |
| 02/2024   | Vicore Pharma                        | Nippon Shinyaku                                | Co-Market, Co-Promotion, Dev., License           | Orphan Indic.        | Dev. of C21 for idiopathic pulmonary fibrosis (IPF) in Japan                                       | Respiratory                                  | 10            | --           | --                               | --                     | 275                       | 285              |
| 02/2024   | MorphoSys                            | Novartis                                       | Acquisition, Asset Purchase                      | Phase III            | Novartis to acquired MorphoSys   | Cancer                                       | --            | --           | --                               | --                     | --                        | 3                |
| 02/2024   | OSE Immunotherapeutics               | AbbVie   | Dev., License                                    | Preclinical          | Dev. of monoclonal antibody (OSE-230) for chronic inflammation                                     | Autoimmune/Inflammatory                      | 48            | --           | --                               | --                     | 665                       | 713              |
| 02/2024   | Neomorphic                           | Novo Nordisk                                   | Co-Market, Co-Promotion, CRO, Dev., Research     | Preclinical          | Dev. of molecular glue degraders for cardiometabolic and rare diseases                             | Endocrinological & Metabolic                 | --            | --           | --                               | --                     | --                        | 1,460            |
| 02/2024   | Redx Pharma                          | Jazz Pharmaceuticals                           | Asset Purchase                                   | Preclinical          | Acquire Redx's KRAS (Kirsten rat sarcoma virus) inhibitor program                                  | Cancer                                       | 10            | --           | --                               | --                     | 870                       | 880              |
| 02/2024   | Ayala Pharmaceuticals                | Immunome                                       | Asset Purchase                                   | Phase III            | Acquire AL102 from Ayala for the treatment of desmoid tumors                                       | Cancer                                       | 20            | 30           | --                               | 28                     | 10                        | 88               |
| 01/2024   | Lemonex                              | CEPI   | Research   | Phase I              | Dev. of DegradabALL mRNA vaccine platform for infectious diseases                                  | Infectious-Viral                             | --            | --           | --                               | --                     | --                        | 5                |
| 01/2024   | Zentalis Pharmaceuticals             | Immunome                                       | License, Research                                | Preclinical          | License agreement for preclinical ROR1 ADC and ADC platform technology                             | Cancer                                       | 15            | 20           | --                               | --                     | 275                       | 310              |
| 01/2024   | LG Chem                              | Rhythm Pharmaceuticals                         | Dev., License, Research                          | Phase II             | Global licensing agreement for LB54640 for hyperphagia and severe obesity                          | Endocrinological & Metabolic                 | 40            | 20           | --                               | 40                     | 205                       | 285              |
| 01/2024   | Allorion Therapeutics                | AstraZeneca                                    | Dev., License, Option                            | Preclinical          | Dev. of EGFR L858R mutated allosteric inhibitor for non-small cell lung cancer                     | Cancer                                       | 40            | --           | --                               | --                     | 500                       | 540              |
| 01/2024   | Allorion Therapeutics                | Avenzo Therapeutics                            | Co-Market, Co-Promotion, Dev., License, Option   | Phase I              | Dev. of AVZO-021 for solid tumors  | Cancer                                       | 40            | --           | --                               | --                     | 1,000                     | 1,040            |
| 01/2024   | Shanghai Argo Biopharmaceutical      | Novartis                                       | Co-Market, Dev., License, Option, Research       | Phase II, Phase I    | Two agreements Phase 1 and Phase 1/2a clinical-stage programs for cardiovascular disease treatment | Cardiovascular                               | 185           | --           | --                               | --                     | --                        | 4,165            |
| 01/2024   | Chengdu Kanghua Biological Products  | HilleVax                                       | Dev., License, Research, Supply                  | Phase I              | License agreement for rights to Kangh's hexavalent virus-like particle vaccine (HIL-216)           | Infectious-Viral                             | 15            | --           | --                               | --                     | 256                       | 271              |
| 01/2024   | Perspective                          | Lantheus Holdings                              | Asset Purchase, Co-Dev., Dev., License, Option   | Phase II             | Dev. of Pb212-VMT-α-NET for neuroendocrine tumors  | Cancer                                       | 28            | --           | --                               | --                     | --                        | 61               |
| 01/2024   | Protagonist Therapeutics             | Takeda   | Co-Dev., Co-Market, Co-Promotion, Dev., License  | Phase III            | Dev. of rusfertide for Polycythemia Vera (PV)  | Hematologic                                  | --            | --           | --                               | --                     | --                        | 300              |
| 01/2024   | Inhibrx                              | Sanofi   | Acquisition, Asset Purchase                      | Phase II             | Sanofi acquired Inhibrx  | Autoimmune/Inflammatory, Other/Miscellaneous | --            | --           | --                               | --                     | --                        | 296              |
| 01/2024   | Windtree Therapeutics                | Lee's Pharmaceutical                           | Co-Market, Dev., License, Research               | Phase II             | Dev. and commercialization of istaroxime in China  | Cardiovascular                               | --            | --           | --                               | --                     | 138                       | 138              |
| 01/2024   | Beckley Psytech                      | ATAI Life Sciences                             | Co-Market, Research                              | Phase II             | Dev. of BPL-003 and ELE-101 for neuropsychiatric conditions  | Psychiatric                                  | --            | --           | --                               | --                     | --                        | 50               |
| 01/2024   | Sermonix Pharmaceuticals             | Shanghai Henlius Biotech                       | Co-Market, Co-Promotion, Dev., License, Research | Phase III            | Dev. of novel endocrine therapy lasofoxifene for breast cancer                                     | Cancer                                       | --            | --           | --                               | --                     | --                        | 58               |
| 01/2024   | Harpoon Therapeutics                 | Merck  | Acquisition                                      | Phase I, Preclinical | Merck acquired Harpoon Therapeutics  | Cancer                                       | --            | --           | --                               | --                     | --                        | 680              |
| 01/2024   | Aiolos Bio                           | GSK  | Acquisition                                      | Phase II             | GSK acquired Aiolos Bio  | Autoimmune/Inflammatory, Respiratory         | 1,000         | --           | --                               | --                     | 400                       | 1,400            |
| 01/2024   | MediLink Therapeutics                | Roche  | Dev., License, Research                          | Phase I              | Dev. of antibody-drug conjugate candidate YL211 for solid tumors                                   | Cancer                                       | --            | --           | --                               | --                     | --                        | 1,000            |
| 12/2023   | RayzeBio                             | Bristol Myers Squibb                           | Acquisition                                      | Phase III            | Bristol Myers Squibb acquired RayzeBio   | Cancer                                       | --            | --           | --                               | --                     | --                        | 4,100            |
| 12/2023   | Compugen                             | Gilead   | Co-Market, Co-Promotion, Dev., License, Research | Preclinical          | Dev. of COM503 for solid tumors  | Cancer                                       | --            | --           | --                               | --                     | --                        | 848              |
| 12/2023   | Ionis Pharmaceuticals                | Otsuka Pharmaceutical                          | Co-Market, Co-Promotion, Dev., Research          | Phase III            | Dev. of donidalorsen for hereditary angioedema   | Hematologic                                  | --            | --           | --                               | --                     | --                        | 65               |

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| 12/2023   | Cerevel Therapeutics                      | AbbVie                | Acquisition  | Preclinical          | AbbVie acquired Cerevel Therapeutics  | Central Nervous System, Psychiatric          | --            | --           | --                               | --                     | --                        | 8,700            |
| 12/2023   | Abbisko Therapeutics                      | Merck KGaA            | Co-Dev., Co-Market, Co-Promotion, Dev., License, Research  | Phase III            | Dev. of Pimicotinib (ABSK021) for solid tumors  | Cancer                                       | 70            | --           | --                               | --                     | --                        | 70               |
| 12/2023   | Carmot Therapeutics                       | Roche                 | Acquisition  | Preclinical          | Roche acquired Carmot Therapeutics  | Endocrinological & Metabolic                 | 2,700         | --           | --                               | --                     | 400                       | 3,100            |
| 12/2023   | Palvella Therapeutics                     | Ligand                | Co-Market, Co-Promotion, CRO, Dev.                         | Phase III            | Dev. of QTORIN rapamycin for Microcystic Lymphatic Malformations                                    | Other/Miscellaneous                          | --            | --           | --                               | --                     | --                        | 5                |
| 11/2023   | Chong Kun Dang Pharmaceutical             | Novartis              | Dev., License  | Phase I              | Dev. and commercialization of CKD-510   | Other/Miscellaneous                          | 80            | --           | 1,225                            | --                     | --                        | 1,305            |
| 11/2023   | Prism BioLab                              | Lilly                 | Dev., License, Research                                    | Preclinical          | Dev. of PepMetics technology for cancer, autoimmune, fibrosis                                       | Autoimmune/Inflammatory, Cancer, Respiratory | --            | --           | --                               | --                     | --                        | 600              |
| 11/2023   | Avidity Biosciences                       | Bristol-Myers Squibb  | Co-Market, Co-Promotion, Dev., License, Research           | Phase II             | Dev. of AOC Platform Technology for cardiovascular  | Cardiovascular                               | --            | --           | --                               | --                     | --                        | 2,300            |
| 11/2023   | Autifony Therapeutics                     | Jazz Pharmaceuticals  | Dev., License, Research                                    | Preclinical          | Dev. Of Two Ion Channel Targets for Neurological Disorders  | Central Nervous System                       | --            | --           | --                               | --                     | --                        | 771              |
| 11/2023   | Ensem Therapeutics                        | BeiGene               | Dev., License, Research                                    | Phase I              | Dev. of cyclin-dependent kinase 2 (CDK2)inhibitor for breast cancer                                 | Cancer                                       | --            | --           | --                               | --                     | --                        | 1,330            |
| 11/2023   | Department for Health and Social Care     | Emergex Vaccines      | Dev., Research   | Phase I              | Dev. of CD8 T cell-priming CHIKV vaccine candidate (PepGNP-ChikV) for Chikungunya Virus             | Infectious-Viral                             | --            | --           | --                               | --                     | --                        | 2                |
| 11/2023   | Propella Therapeutics                     | Astellas Pharma       | Acquisition  | Phase II             | Astellas acquired Propella Therapeutics   | Cancer                                       | --            | --           | --                               | --                     | --                        | 175              |
| 11/2023   | Royalty Pharma                            | Teva                  | Dev., Research   | Phase III            | Dev. of olanzapine LAI (TEV-'749) for schizophrenia   | Psychiatric                                  | --            | --           | --                               | --                     | --                        | 225              |
| 11/2023   | Cartesian                                 | Selecta Biosciences   | Acquisition  | Phase III            | Selecta Biosciences Merger with Cartesian Therapeutics  | Autoimmune/Inflammatory                      | --            | --           | --                               | --                     | --                        | 110              |
| 11/2023   | Legend Biotech                            | Novartis              | Co-Market, Co-Promotion, Dev., License, Research, Services | Phase I              | Dev. of LB2102 for small cell lung cancer and large cell neuroendocrine carcinoma                   | Cancer                                       | --            | --           | --                               | --                     | --                        | 100              |
| 11/2023   | Eccogene                                  | AstraZeneca           | Co-Market, Co-Promotion, Dev., License, Research           | Phase I              | Dev. of ECC5004 small molecule GLP-1 RA for obesity, type-2 diabetes & cardiometabolic              | Endocrinological & Metabolic                 | 185           | --           | --                               | --                     | 1,825                     | 2,010            |
| 11/2023   | Orum Therapeutics                         | Bristol-Myers Squibb  | Acquisition  | Phase I              | Bristol Myers Squibb acquired ORM-6151 Program from Orum Therapeutics                               | Cancer                                       | --            | --           | --                               | --                     | --                        | 280              |
| 11/2023   | Clearside Biomedical                      | BioCryst              | Dev., License  | Phase III            | Dev. of avoralstat using SCS Microinjector for diabetic macular edema (DME)                         | Endocrinological & Metabolic                 | --            | --           | --                               | --                     | --                        | 83               |
| 10/2023   | AnHeart Therapeutics                      | Nippon Kayaku         | Co-Market, Co-Promotion, Dev., License, Research           | Phase II             | Dev. of taletrectinib for NSCLC in Japan  | Cancer                                       | 40            | --           | --                               | --                     | --                        | 40               |
| 10/2023   | Hansoh Pharma                             | GSK                   | Co-Market, Dev., License                                   | Phase I              | Dev. and commercialization of HS-20089, HS-20093 for gynaecological cancers                         | Cancer                                       | 85            | --           | --                               | --                     | 1,485                     | 1,710            |
| 10/2023   | Gravitas Therapeutics                     | Basilea Pharmaceutica | Asset Purchase, Dev., License                              | Phase II             | Asset purchase agreement for GR-2397 for the treatment of infections caused by Aspergillus species  | Infectious-Miscellaneous                     | 2             | --           | --                               | 2                      | 67                        | 71               |
| 10/2023   | Teva                                      | Sanofi                | Co-Dev., Co-Market, Co-Promotion, Dev., Research, Services | Phase II             | Developed TEV574, a novel anti-TL1A therapy for Crohn's disease                                     | Gastrointestinal                             | 500           | --           | --                               | --                     | 1,000                     | 1,500            |
| 10/2023   | Johnson & Johnson, Janssen Pharmaceutical | Sanofi                | Co-Market, Co-Promotion, Dev., Research                    | Phase III            | Dev. of extraintestinal pathogenic E. coli (9-valent) for invasive ExPEC disease                    | Infectious-Bacterial                         | --            | --           | --                               | --                     | --                        | 175              |
| 10/2023   | BioLineRx                                 | Gloria Biosciences    | Co-Market, Dev., License, Research, Services               | Phase III            | Dev. and commercialization of motixafortide in Asia   | Cancer                                       | 15            | --           | --                               | --                     | 250                       | 265              |
| 10/2023   | Ichnos Sciences                           | Astria Therapeutics   | Dev., License  | Phase II             | Dev. of STAR-0310 for atopic dermatitis, allergic and immunological diseases                        | Autoimmune/Inflammatory, Dermatologic        | --            | --           | --                               | --                     | --                        | 320              |
| 10/2023   | VenatoRx Pharmaceuticals                  | BARDA                 | Co-Market, Dev., Research, Services                        | Phase III            | Dev. of novel oral antibiotic ceftibuten-ledaborbactam etzadroxil for urinary tract infection       | Infectious-Bacterial                         | 20            | --           | --                               | --                     | --                        | 167              |
| 09/2023   | Valo Health                               | Novo Nordisk          | Dev., Research   | Preclinical          | Dev. of Platform and Biowire human tissue modelling platform for cardiometabolic diseases           | Cardiovascular                               | 60            | --           | --                               | --                     | 2,700                     | 2,760            |
| 09/2023   | Evomune                                   | Maruho                | Co-Market, Dev., Research, Services                        | Phase I              | To exclusively develop and commercialize MRGPRX2 antagonist EVO756 in China and key Asian countries | Autoimmune/Inflammatory                      | 60            | --           | --                               | --                     | --                        | 62               |
| 09/2023   | BioNTech                                  | CEPI                  | Dev., Research   | Phase II             | Dev. of RNA-based mpox vaccine, BNT166 for infectious diseases                                      | Infectious-Bacterial                         | --            | --           | --                               | --                     | --                        | 90               |
| 09/2023   | Inventiva                                 | Hepalys Pharma        | Co-Market, Dev., License, Option                           | Phase I              | Develop and commercialize lanifibranor for non-alcoholic steatohepatitis in Japan and South Korea   | Liver & Gallbladder Diseases                 | 10            | --           | --                               | --                     | 231                       | 241              |
| 09/2023   | immatics                                  | Moderna Therapeutics  | Co-Market, Co-Promotion, Dev., Research                    | Phase I, Preclinical | Dev. of cancer vaccines (IMA203) using XPRESIDENT platform and mRNA technology                      | Cancer                                       | --            | --           | --                               | --                     | --                        | 1,820            |

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| 09/2023   | Nurix                                 | SeaGen  | Co-Market, Co-Promotion, Dev., Research                  | Preclinical         | Dev. of Degradar-Antibody Conjugates (DACs) for solid tumors and hematologic Cancer             | Cancer                            | 60            | --           | --                               | --                     | 3,400                     | 3,460            |
| 09/2023   | Zenas BioPharma                       | Bristol-Myers Squibb                              | Co-Market, Co-Promotion, Dev., License, Research         | Phase III           | Dev. of bexelimab for autoimmune diseases in Japan, South Korea, Taiwan & other Asian Country   | Autoimmune/Inflammato ry          | 50            | --           | --                               | --                     | --                        | 50               |
| 09/2023   | Traverse Therapeutics                 | Mirum Pharmaceuticals                             | Acquisition, Asset Purchase                              | Phase III           | Mirum Pharmaceuticals acquired Cholbam and Chenodal from Traverse Therapeutics                  | Liver & Gallbladder Diseases      | --            | --           | --                               | --                     | 235                       | 445              |
| 08/2023   | VBI Vaccines                          | Brii Biosciences                                  | Asset Purchase, Dev., License, Supply                    | Phase II            | Worldwide exclusive license to VBI-2601 and PreHevbi in the Asia Pacific region                 | Infectious-Viral                  | --            | --           | --                               | --                     | --                        | 437              |
| 08/2023   | GenFleet Therapeutics                 | Verastem  | Co-Market, Co-Promotion, Dev., License, Option, Research | Phase I             | Dev. of small molecule drug for RAS biology and RAS pathway-dependent cancers                   | Cancer                            | --            | --           | --                               | --                     | --                        | 637              |
| 08/2023   | Bird Rock Bio                         | Skye Bioscience                                   | Acquisition, Asset Purchase                              | Phase II, Phase I   | Skye acquired Bird Rock Bio   | Ophthalmic, Renal                 | --            | --           | --                               | --                     | --                        | 17               |
| 08/2023   | Timber Pharmaceuticals                | LEO Pharma  | Acquisition  | Phase III, Phase II | Timber Pharmaceuticals to be acquired by LEO Pharma   | Dermatologic                      | 14            | --           | 22                               | --                     | --                        | 36               |
| 08/2023   | Radius Health, Radius Pharmaceuticals | DRI Healthcare                                    | Asset Purchase, License, Research, Services              | Approved            | Royalty Purchase Agreement for Radius's royalty and commercial milestone stream in elacestrant  | Cancer                            | 130           | --           | --                               | --                     | 10                        | 140              |
| 08/2023   | Exavir Therapeutics                   | NIH, National Institute of Allergy and Infectious | Dev., Research, Services                                 | Preclinical         | Receives \$3M award for Dev. of XVIR-110  | Infectious-Viral                  | --            | --           | --                               | --                     | --                        | 3                |
| 08/2023   | Soligenix                             | University of Pennsylvania                        | Dev., Research   | Phase III           | Dev. of HyBryte (synthetic hypericin) for cutaneous T-cell lymphoma (CTCL)                      | Cancer                            | --            | --           | --                               | --                     | --                        | 3                |
| 08/2023   | Poseida Therapeutics                  | Astellas Pharma                                   | Co-Market, Co-Promotion, Dev., License, Research         | Phase I             | Phase I trials of P-BCMA-ALLO1 and P-MUC1C-ALLO1 for multiple myeloma and solid tumors          | Cancer                            | --            | --           | --                               | --                     | --                        | 600              |
| 08/2023   | EQRx                                  | Revolution Medicines                              | Acquisition  | Phase I             | Revolution Medicines acquired EQRx  | Cancer                            | --            | --           | --                               | --                     | --                        | 1,000            |
| 08/2023   | Alnylam                               | Agios Pharmaceuticals                             | Co-Market, Co-Promotion, License                         | Preclinical         | Dev. of siRNA targeting TMPRSS6 for patients with polycythemia vera                             | Cancer                            | 18            | --           | --                               | --                     | 130                       | 148              |
| 07/2023   | Amarin                                | Lotus Pharmaceuticals                             | Co-Market, Dev., Distribution, Supply                    | Approved            | Distribute and commercialize VAZKEPA in Southeast Asia and South Korea                          | Cardiovascular                    | 0             | --           | --                               | --                     | --                        | 0                |
| 07/2023   | Axolotl Biologix                      | Carmell Therapeutics                              | Acquisition  | Phase II            | Carmell Therapeutics merger with Axolotl Biologix   | Other/Miscellaneous               | --            | --           | --                               | --                     | 75                        | 75               |
| 07/2023   | Pfizer                                | Alexion, AstraZeneca                              | Acquisition, Asset Purchase, License                     | Preclinical         | Acquire preclinical gene therapy programs for rare disease gene therapies                       | Other/Miscellaneous               | --            | --           | --                               | --                     | --                        | 1,000            |
| 07/2023   | Santhera                              | Catalyst Pharmaceuticals                          | Acquisition, Co-Market, Co-Promotion, License            | Approved            | Commercialization of Vamorolone for Duchenne Muscular Dystrophy in North America                | Autoimmune/Inflammato ry          | 75            | --           | --                               | --                     | 115                       | 231              |
| 07/2023   | EryDel                                | Quince Therapeutics                               | Acquisition, Asset Purchase                              | Phase III           | Quince Therapeutics acquired EryDel   | Central Nervous System            | --            | --           | --                               | --                     | 395                       | 983              |
| 07/2023   | Recludix Pharma                       | Sanofi  | Co-Market, Dev., Option, Research, Services              | Phase II            | Develop and commercialize STAT6 for immunological and inflammatory Indic.s                      | Autoimmune/Inflammato ry          | 125           | --           | --                               | --                     | 1,200                     | 1,325            |
| 07/2023   | DualityBio                            | BeiGene   | Acquisition, Co-Market, Co-Promotion, License, Option    | Preclinical         | A global and commercial license to an investigational, preclinical ADC therapy for solid tumors | Cancer                            | --            | --           | --                               | --                     | --                        | 1,300            |
| 06/2023   | Novartis                              | Bausch + Lomb                                     | Acquisition, Loan  | Approved            | Bausch + Lomb will acquire XIIDRA from Novartis   | Ophthalmic                        | 1,750         | --           | --                               | --                     | 750                       | 2,500            |
| 06/2023   | Immunogenesis                         | Cancer Focus Fund                                 | Research, Services                                       | Phase I             | Support the Phase 1a/1b clinical trial of ImmunoGenesis' lead candidate IMG5-001                | Cancer                            | --            | --           | --                               | --                     | --                        | 5                |
| 06/2023   | Aslan Pharmaceuticals                 | Zenyaku Kogyo                                     | Dev., License  | Phase I             | Exclusive rights to develop and commercialize eblasakimab in atopic dermatitis in Japan         | Dermatologic, Other/Miscellaneous | --            | --           | --                               | --                     | --                        | 139              |
| 06/2023   | Tourmaline Bio                        | Talaris Therapeutics                              | Acquisition  | Phase II            | Talaris Therapeutics acquired Tourmaline Bio  | Cardiovascular, Ophthalmic        | --            | --           | --                               | --                     | --                        | 350              |
| 06/2023   | Surface Oncology                      | Coherus Biosciences                               | Acquisition  | Phase II            | Coherus acquired Surface Oncology   | Cancer                            | --            | --           | --                               | --                     | --                        | 40               |
| 06/2023   | NRx Pharmaceuticals, Alvogen          | Lotus Pharmaceuticals                             | Co-Market, Co-Promotion, Dev., Research                  | Phase III           | Dev. and commercialization of NRX-101 for suicidal treatment-resistant bipolar depression       | Psychiatric                       | --            | --           | --                               | 5                      | 330                       | 329              |
| 05/2023   | InDex Pharmaceutical                  | Viatrix   | Co-Market, Co-Promotion, Dev., License, Research         | Phase III           | Commercialization of cobitolimod for the treatment of ulcerative colitis in Japan               | Gastrointestinal                  | 10            | --           | --                               | --                     | 40                        | 50               |
| 05/2023   | XtalPi                                | Lilly   | Co-Market, Dev., Research, Services                      | Discovery           | XtalPi's integrated AI capabilities and robotics platform for an undisclosed target             |                                   | --            | --           | --                               | --                     | --                        | 250              |
| 05/2023   | CohBar                                | TuHURA Biosciences, Morphogenesis                 | Acquisition  | Phase II            | CohBar and Morphogenesis definitive merger agreement to develop cancer vaccines                 | Cancer                            | --            | --           | --                               | --                     | --                        | 15               |
| 05/2023   | Mustang Bio                           | uBriGene  | Asset Purchase   | Phase II            | auriGene acquired Mustang clinical and commercial cell & gene therapy manufacturing facility    | Cancer                            | --            | --           | --                               | --                     | --                        | 11               |

| Deal Date | Seller                          | Buyer                            | Kind of Transaction  | Satge of Dev.       | Deal Information   | Disease Area                              | Upfront (\$M) | Equity (\$M) | Clinical / Reg. Milestones (\$M) | Other Milestones (\$M) | Commercial Payments (\$M) | Total Deal (\$M) |
|-----------|---------------------------------|----------------------------------|--|---------------------|--|---|---------------|--------------|----------------------------------|------------------------|---------------------------|------------------|
| 05/2023   | TScan Therapeutics              | Amgen                            | Co-Market, Dev., Option, Research, Services                                | Discovery           | Use of TScan's proprietary target discovery platform for Crohn's disease                             | Gastrointestinal                          | 30            | --           | --                               | --                     | 500                       | 530              |
| 05/2023   | Ginkgo Bioworks                 | Boehringer Ingelheim             | Dev., Research   | Phase II            | Accelerate drug discovery to develop natural product   | Other/Miscellaneous                       | --            | --           | --                               | --                     | --                        | 406              |
| 05/2023   | DIANTHUS THERAPEUTICS           | Magenta Therapeutics             | Acquisition  | Phase II            | Dianthus Therapeutics merger with Magenta Therapeutics   | Autoimmune/Inflammatory                   | --            | --           | --                               | --                     | --                        | 250              |
| 05/2023   | Marker Therapeutics             | CellReady                        | Asset Purchase, CRO, Dev., Research, Services                              | Phase II            | Dev. of MT-601,MT-401 to use T cell therapy for cancer   | Cancer                                    | --            | --           | --                               | --                     | --                        | 30               |
| 04/2023   | 3B Pharmaceuticals              | Novartis                         | Co-Market, Dev., License   | Phase I             | Licensing agreement for 3BP's FAP-targeting peptide technology including FAP-2286                    | Cancer                                    | 40            | --           | --                               | --                     | 425                       | 465              |
| 04/2023   | Lilly                           | Zura Bio                         | Dev., License, Research  | Phase I             | Licensing transaction for ZB-106, anti-IL-17 and anti-BAFF dual antagonist for autoimmune diseases   | Autoimmune/Inflammatory                   | --            | --           | --                               | --                     | --                        | 84               |
| 04/2023   | Pipeline Therapeutics           | Johnson & Johnson, Janssen       | Dev., License, Research  | Phase II            | Dev. and commercialization of PIPE-307 for relapsing-remitting multiple sclerosis                    | Central Nervous System                    | 50            | --           | --                               | --                     | 1,000                     | 1,050            |
| 04/2023   | Veru                            | Blue Water Vaccines              | Acquisition, Asset Purchase, Co-Market, Dev., Research                     | Approved            | A purchase agreement for ENTADF1 for benign prostatic hyperplasia                                    | Genitourinary/Gynecologic                 | 20            | --           | --                               | --                     | 80                        | 100              |
| 04/2023   | Treventis                       | Takeda                           | Co-Market, Co-Promotion, Dev., License, Option, Research                   | Preclinical         | Dev. and commercialization of small molecules for alzheimer's disease                                | Central Nervous System                    | --            | --           | --                               | --                     | 373                       | 373              |
| 04/2023   | Omeros                          | National Institute on Drug Abuse | Dev., Research   | Preclinical         | Omeros received \$6.69 M grant from NIDA for clinical study of OMS527 for cocaine use disorder       | Psychiatric                               | --            | --           | --                               | --                     | --                        | 7                |
| 04/2023   | DualityBio                      | BioNTech                         | Co-Dev., License, Research, Services                                       | Phase III           | Exclusive licenses for BNT323/DB-1303 and DB-1311 for solid tumors, breast Cancer                    | Cancer                                    | --            | --           | --                               | --                     | --                        | 1,670            |
| 03/2023   | Highlightl Pharma               | Biohaven Pharmaceuticals         | Dev., License  | Phase I             | Dev. of BHV-8000 for Parkinson's disease, Alzheimer's disease, ALS, and Multiple sclerosis           | Central Nervous System                    | 10            | --           | --                               | --                     | 970                       | 970              |
| 03/2023   | GrayBug                         | CalciMedica                      | Acquisition  | Phase II            | CalciMedica Inc merger with Graybug Vision   | Infectious-Bacterial                      | --            | --           | --                               | --                     | --                        | 34               |
| 03/2023   | Opko Health, ModeX Therapeutics | Merck                            | License  | Preclinical         | License and collaboration for MDX-2201, a vaccine candidate targeting Epstein-Barr Virus proteins    | Infectious-Viral                          | 50            | --           | --                               | --                     | --                        | 923              |
| 03/2023   | Scynexis                        | GlaxoSmithKline                  | Co-Market, Co-Promotion, Dev., License, Research                           | Approved            | Develop and commercialize Brexafemme for the treatment of vulvovaginal candidiasis                   | Infectious-Miscellaneous                  | 90            | --           | --                               | 70                     | 358                       | 593              |
| 03/2023   | Sonoma Pharmaceuticals          | Regeneron Pharmaceuticals        | Co-Dev., Co-Market, Co-Promotion, Joint Venture, License, Option, Research | Discovery           | Combining regenerons VelociSuite with sonomas manufacturing expertise to develop Treg therapies      | Autoimmune/Inflammatory, Gastrointestinal | 75            | --           | --                               | --                     | 45                        | 120              |
| 03/2023   | OncoC4                          | BioNTech                         | Co-Dev., Co-Market, Co-Promotion, Dev., Research                           | Phase II            | ONC392, CTLA-4 anti-PD-(L)-1 antibodies for multiple solid tumor Indic.s                             | Cancer                                    | --            | --           | --                               | --                     | --                        | 200              |
| 03/2023   | Coya Therapeutics               | Dr. Reddy's Laboratories         | Co-Market, Co-Promotion, Dev., License, Research                           | Phase II            | COYA 302 for neurodegenerative diseases  | Central Nervous System                    | --            | --           | --                               | --                     | --                        | 733              |
| 03/2023   | Teijin Pharma                   | Novartis                         | Co-Market, Dev., License, Research, Services                               | Preclinical         | Develop and commercialize an investigational preclinical candidate for proteinuric kidney diseases   | Renal                                     | 30            | --           | --                               | --                     | 200                       | 230              |
| 03/2023   | Volastra Therapeutics, Amgen    | Lilly                            | Co-Market, Co-Promotion, Dev., License, Research                           | Phase I             | AMG650 small molecule inhibitor of KIF18A for cancer worldwide (ex-China)                            | Cancer                                    | --            | --           | --                               | --                     | --                        | 60               |
| 02/2023   | Harbour BioMed                  | Cullinan Oncology                | Co-Market, Co-Promotion, Dev., License, Research                           | Phase I             | Dev. of HBM7008 (CLN-418) for solid tumors   | Cancer                                    | 25            | --           | --                               | --                     | 563                       | 588              |
| 01/2023   | Mabwell                         | Disc Medicine                    | License  | Phase I             | Rights to a portfolio of monoclonal antibodies targeting TMPRSS6 including drug candidate MWTX-003   | Hematologic                               | 10            | --           | --                               | --                     | 413                       | 423              |
| 01/2023   | Immunome                        | AbbVie                           | Co-Dev., Option  | Discovery           | Collaboration to identify up to 10 novel antibody-target pairs arising from 3 specific tumor types   | Cancer                                    | 30            | --           | --                               | 70                     | 120                       | 220              |
| 01/2023   | WuXi Biologics                  | GlaxoSmithKline                  | Dev., License  | Preclinical         | Exclusive license agreement for one multi-specific TCE antibody with the option for three additional | Cancer                                    | 40            | --           | --                               | --                     | 1,460                     | 1,500            |
| 12/2022   | Novartis                        | Erasca                           | Co-Market, Dev., License, Research, Supply                                 | Phase III, Phase II | Develop and commercialize Naporafenib (LXH254) for melanoma and other RAS/MAPK pathway-driven tumors | Cancer                                    | 100           | --           | 80                               | --                     | 200                       | 380              |
| 11/2022   | Biotheus                        | Hansoh Pharma                    | Co-Market, Dev., License   | Phase II, Phase I   | Agreement for EGFR/MET bispecific antibody (PM1080) in Greater China                                 | Cancer                                    | 7             | --           | --                               | --                     | 194                       | 201              |
| 11/2022   | Basilea Pharmaceutica           | Twentyeight-Seven Therapeutics   | Asset Purchase, Research   | Preclinical         | Asset purchase agreement for novel inhibitors of CLK kinases, developed by Basilea                   | Cancer, Other/Miscellaneous               | 1             | --           | --                               | --                     | 395                       | 396              |
| 08/2022   | Zynerba Pharmaceuticals         | Harmony Biosciences              | Acquisition  | Phase III           | Harmony Biosciences acquired Zynerba Pharmaceuticals   | Central Nervous System                    | --            | --           | --                               | --                     | 140                       | 200              |
| 07/2022   | Tarus Therapeutics              | Portage Biotech                  | Acquisition  | Phase II            | Portage Biotech acquired Tarus Therapeutics  | Cancer                                    | 21            | --           | --                               | --                     | 32                        | 51               |
| 06/2022   | Proxygen                        | Merck KGaA                       | Dev., License, Research  | Discovery           | Developing molecular glue degraders towards a clinical candidate                                     | Unlimited                                 | --            | --           | --                               | --                     | --                        | 554              |

| Deal Date | Seller               | Buyer                      | Kind of Transaction                          | Satge of Dev.          | Deal Information   | Disease Area                   | Upfront (\$M) | Equity (\$M) | Clinical / Reg. Milestones (\$M) | Other Milestones (\$M) | Commercial Payments (\$M) | Total Deal (\$M) |
|-----------|----------------------|----------------------------|--|------------------------|--|--------------------------------|---------------|--------------|----------------------------------|------------------------|---------------------------|------------------|
| 06/2022   | BioInvent            | Exelixis                   | Co-Dev., License, Option                     | Preclinical, Discovery | Collaboration to develop antibody-based therapies using n-CoDeR and F.I.R.S.T for cancer       | Cancer                         | 25            | --           | --                               | --                     | --                        | 25               |
| 05/2022   | LaNova Medicines     | Turning Point Therapeutics | Co-Market, Dev.                              | Phase I                | Develop and commercialize LM-302 targeting Claudin18.2 in the U.S. and rest of the world       | Cancer                         | 25            | --           | --                               | --                     | 195                       | 220              |
| 03/2022   | VCN Biosciences      | Synthetic Biologics        | Acquisition                                  | Phase II               | Synthetic Biologics acquired VCN Biosciences   | Cancer                         | --            | --           | --                               | --                     | --                        | 72               |
| 02/2022   | Curve Therapeutics   | MSD                        | Co-Market, Dev., Research, Services          | Discovery              | Discover and validate modulators of up to five therapeutic targets using Microcycle technology | Cancer, Central Nervous System | --            | --           | --                               | --                     | --                        | 1,700            |
| 09/2020   | Moderna Therapeutics | Vertex                     | Co-Market, Dev., License, Research, Services | Discovery              | Dev. of lipid nanoparticles and mRNAs for gene-editing therapies for cystic fibrosis           | Respiratory                    | 75            | --           | --                               | --                     | 380                       | 455              |