June 2, 2020

Stars Align at CLP Biotech Summit

Highlights from Our 2nd Annual Event

HEALTHCARE/BIOTECHNOLOGY

SUMMARY

Our 2nd annual, yet first-time virtual, investor conference with Northwestern University Chemistry of Life Processes (CLP) Institute showcased the latest breakthroughs in oncology ahead of ASCO. CLP Institute Founding Director Thomas O'Halloran graciously hosted the virtual forum featuring CLP Institute project initiators sharing their groundbreaking research, and corporate presentations highlighting recent progress and upcoming catalysts (SRRA, CereXis, NKTR). Additionally, BioCentury Editor-in-Chief Simone Fishburn hosted a panel discussion with industry leaders on hot topics in oncology therapeutics and technology, and we hosted a panel discussion with distinguished investors on financing and investing in biotechnology companies focused on oncology. CLP Institute is an interdisciplinary network of diverse and complementary approaches involving over 250 investigators across 20 departments with 66 dedicated institute faculty members, and has contributed to launching commercially successful drugs and incubating 27 new companies raising $2.3B in total capital. This report highlights our key takeaways (video replay).

KEY POINTS

- CLP Institute Professors' presentations included: 1) Dr. Nathan Gianneschi on his work using protein-like polymers (PLP) as a robust delivery platform for peptide-based therapeutics; 2) Dr. Daniela Matei on her research showing the importance of the tissue transglutaminase (TG2) and fibronectin (FN) complex in ovarian cancer metastasis and cancer stem cell (CSC) interactions with the tumor niche; and 3) Dr. Josh Leonard on his work developing new tools for engineering cell therapies through synthetic biology.
- SRRA Chief Development Officer Dr. Barbara Klencke outlined the unmet need of anemia and transfusion-dependence in MF, and described momelotinib as a JAK1/2 inhibitor to reduce constitutive symptoms and splenomegaly, similarly to SOC therapies, and differentiated as an ACVR1 inhibitor to lower hepcidin levels, thereby improving anemia. Pivotal Ph3 MOMENTUM trial initiated in 4Q19 and is enrolling 2L MF patients with primary endpoint of TSS improvement. Previous Ph2 SIMPLIFY-1/2 data suggest a strong anemia benefit.
- CereXis CEO Dr. Mani Mohindru described CereXis as focused on genetically-mediated rare brain tumors like neurofibromatosis-2 (NF2) with lead candidate REC-2282. In a previous Ph1 study of REC-2282 in solid tumors (N=17), NF2 patients (N=5) showed relatively better responses with mPFS of 13.9 months compared to 4.4 months for other solid tumor patients, suggesting the targeted approach in NF2. CereXis anticipates initiating a pivotal Ph2 trial by YE20.
- NKTR Chief R&D Officer Dr. Jonathan Zalevsky detailed several upcoming pipeline catalysts. For bempeg+nivolumab, NKTR plans to start dosing in pivotal Ph3 trial in adjuvant melanoma later in 2020 following recently initiated pivotal Ph3 trial in MIBC, and plans to present updated PIVOT-02 data in 1L melanoma at SITC-2020. Additionally, NKTR-262 with Bempeg in Ph1/2 REVEAL trial dose-escalation portion data are expected by YE20, and NKTR-255 Ph1 data in NHL and MM are expected 4Q20/1Q21.
- We hosted a panel discussion with distinguished investors on financing and investing in biotechnology focused on oncology, and provided analysis on trends in FDA approvals, IPOs, and M&A activity. BioCentury Editor-in-Chief Dr. Simone Fishburn hosted a panel discussion with industry leaders on hot topics in oncology drug development. Overall, excitement builds for future Biotech innovations.

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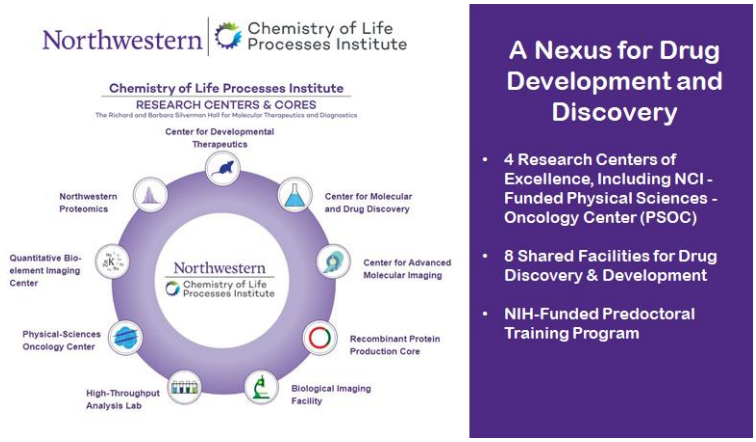
For analyst certification and important disclosures, see the Disclosure Appendix.

Introduction

Thomas O'Halloran, PhD

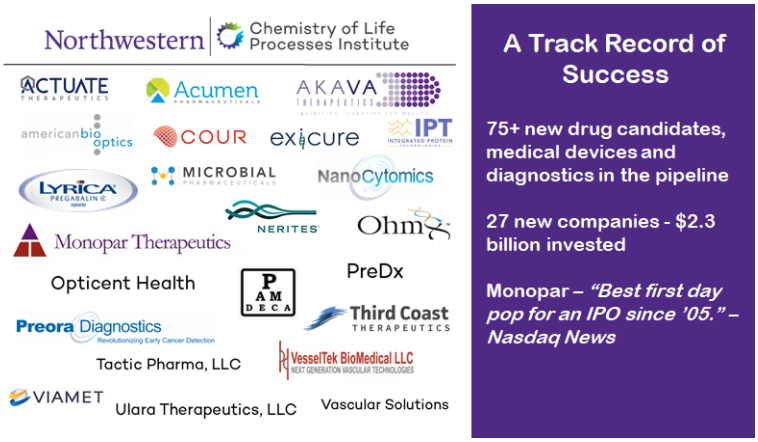
Founding Director of Northwestern University Chemistry of Life Processes (CLP) Institute, Thomas O'Halloran, hosted our second annual investor conference in a virtual format featuring academic and corporate presentations and two panel discussions focused on oncology drug development ahead of ASCO-2020. CLP was founded with the mission to create an interdisciplinary network of diverse and complementary approaches to discover and pursue productive collaborations leading to drug discovery and clinical development. CLP has over 250 investigators across 20 departments with 66 dedicated institute faculty members and has contributed to launching commercially successful drugs, such as Lyrica from Dr. Richard Silverman's laboratory, and developing novel drug candidates, such as Actuate's 9-ING-41 (GSK-3β inhibitor) with Ph1/2 data at ASCO-2020 (abstract no. 3507). CLP has advanced over 75 novel drug candidates and has incubated 27 new companies raising $2.3B in total capital, including MNPR that raised $9M from its IPO in Dec. 2019. Prof. O'Hallaran commented that the "secret sauce" for CLP's success is bringing together the dedicated faculty and essential facilities within one place on campus at Silverman Hall, enabling outside-the-box idea generation for therapeutic targets that are developed under the guidance of CLP's executive advisory board comprised of academics, investors, and industry leaders from the Chicago area – an emerging hub for biotechnology innovation.

Exhibit 1. CLP Institute Functions as an Interdisciplinary Network for Drug Discovery



Source: Northwestern University.

Exhibit 2. CLP Institute Has Built an Impressive Legacy of Innovation in Biotechnology



Source: Northwestern University.

Nathan Gianneschi, PhD

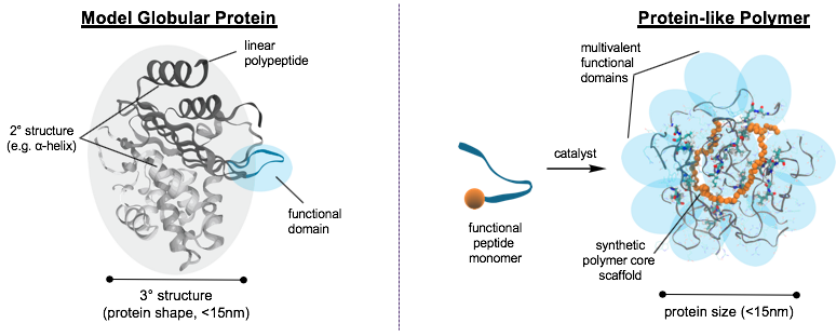
Protein-Like Polymers: A Peptide Therapeutic Delivery Platform Technology

Prof. Nathan Gianneschi takes an interdisciplinary approach to nanomaterials research, focusing on multifunctional materials for biomedical applications. He presented his work on using protein-like polymers (PLP) as a robust delivery platform for peptide drugs.

Peptides have become an attractive approach to drug development due to their high selectivity and potency, as well as favorable safety profiles. Peptides can be manufactured using standard synthetic protocols, providing additional advantages over biologics. However, peptides are intrinsically unstable with short half-lives, and many attempts have been made to bypass the shortcomings of peptides to maximize their therapeutic potential. Prof. Gianneschi developed novel peptide-polymer bio-conjugates displaying multivalent peptides to address the challenge.

PLP is a type of peptide-polymer conjugate containing peptide-modified monomers. PLP can be polymerized to different degrees. As the degree of polymerization increases, PLP exhibits increased resistance to proteolytic degradation. PLP has the potential to serve as a scaffold for peptide delivery, providing additional stability and proteolytic resistance to peptide drugs, while maintaining biological activity.

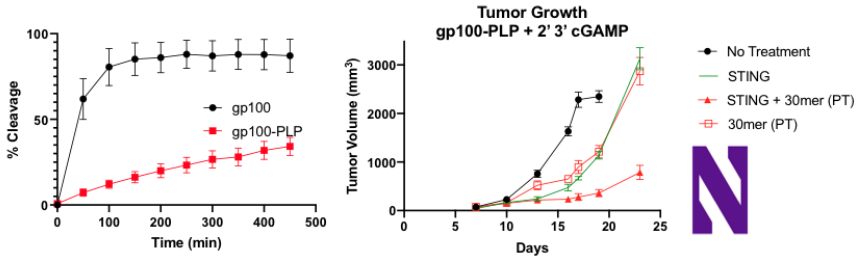
Exhibit 3. Protein-Like Polymers Offer Control over Multivalency, Stability, and Length



Source: Northwestern University.

Prof. Gianneschi designed a proof-of-concept study demonstrating the potential of the PLP platform in immuno-oncology using PLP assembled gp100. Gp100 is a synthetic therapeutic peptide vaccine used as an immunogen for cancer treatment. Studies showed that gp100-PLP exhibits improved stability in vitro compared to free gp100, which was quickly cleaved in the first 100 mins. In melanoma models, gp100-PLP showed synergistic effects with a STING agonist in inducing immune response and tumor clearance. The preliminary data validates PLP as a robust platform to enable peptide drug delivery.

Exhibit 4. GP100-PLP Showed Improved Stability



Source: Northwestern University.

Daniela Matei, MD

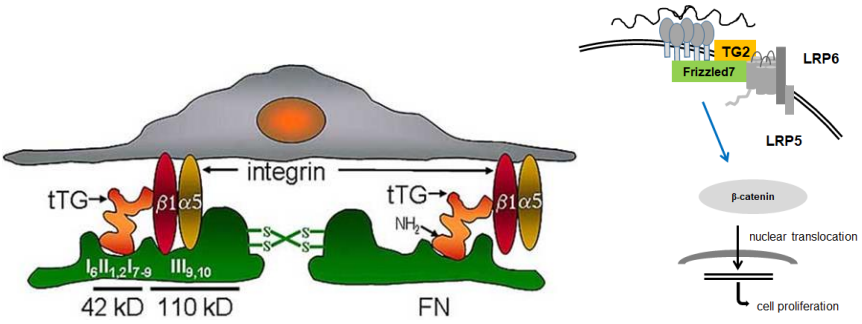
Tissue Transglutaminase/Fibronectin Interaction, a Potential New Cancer Target

Prof. Daniela Matei's research focuses on finding new treatments to eradicate ovarian cancer stem cells and improve patients' clinical outcomes. She presented her research showing the importance of tissue transglutaminase (TG2)/fibronectin (FN) complex in ovarian cancer metastasis and cancer stem cell (CSC) interactions with tumor niche.

TG2 is a multifunctional protein expressed in many different organs. Unlike other members of the transglutaminase family, TG2 can be found both in intracellular space, where it regulates cell apoptosis, and in extracellular space, where it participates in the extracellular matrix (ECM) modeling. The N-terminal of TG2 protein contains a protein-binding domain, allowing TG2 to interact with integrin/FN and promote integrin-mediated binding of cells to ECM.

The study led by Prof. Matei shows TG2/FN interaction regulates ovarian cancer progression and recurrence at different layers. TG2, together with FN and integrin β1, were highly expressed in ovarian CSCs. By interacting with integrin β1, TG2/FN directly modulated ECM, providing an anchor for CSCs in the matrix to engage stemness pathways. Disruption of the interaction between TG2 and FN blocked the formation of stable focal contacts of CSCs with tumor niche, rendering loss of tumor-initiating capabilities and proliferation of CSCs. Prof. Matei's research also demonstrated that TG2/FN interaction activates the Wnt/β-catenin signaling pathway by directly binding with Wnt receptor Frizzled 7, offering additional pro-growth signals to CSCs. Wnt/β-catenin signals were suppressed by inhibition of the interaction between TG2 and FN2. The findings propose new mechanisms by which TG2/FN interaction promotes CSCs and ovarian cancer progression.

Exhibit 5. TG2/FN Regulates ECM (Left) and Activates Wnt/β-catenin Signaling Pathway to Maintain the Stemness of Ovarian Cancer Stem Cells



Source: Northwestern University.

Disrupting the TG2/FN complex seems to be a promising approach to suppress ovarian CSC and potentially treat ovarian cancer. Indeed, Prof. Matei has started to screen small molecules that can bind to TG2 and disrupt its interaction with FN. Two small molecules, TG53 and MT4, have been identified and exhibited potency against the formation of TG2/FN complex at low concentrations. Treatment with TG53 and MT4 blocked ovarian cancer CSC adhesion to the peritoneal matrix in vitro and in vivo. The team is developing and optimizing small molecule TG2/FN inhibitors as new agents for the treatment of advanced ovarian cancer.

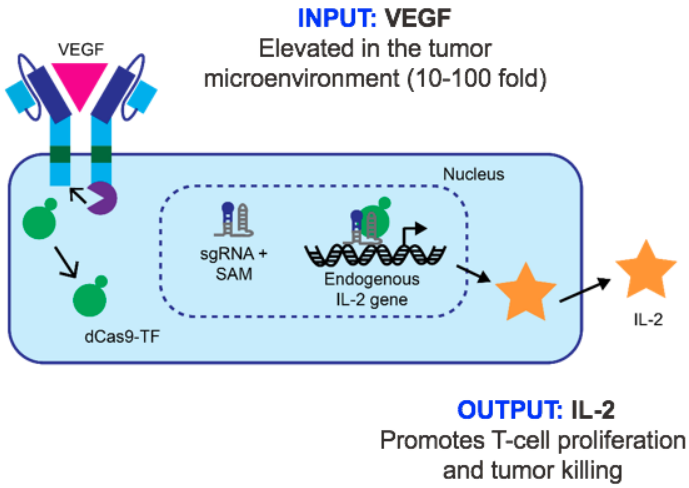
Josh Leonard, PhD

Design-Driven Engineering of Programmable Cell-based Therapies through Synthetic Biology

Prof. Josh Leonard works at the interface of system biology and synthetic biology to enable design-driven medicines. Cell-based therapies, such as CAR-T therapy, have revolutionized our approach to cancer treatment. Despite successes in several types of blood cancers, challenges remain as to how to translate these benefits to more patients with different types of cancer. Prof. Leonard's approach is to develop new tools for engineering cells to sense the environmental signals and respond by expressing target genes. The design of input environmental cues, as well as downstream target gene expression, is enabled by synthetic biology.

An elegant example of Prof. Leonard's approach is the biosensor engineering strategy, referred to as modular extracellular sensor architecture (MESA) receptor. MESA receptor is comprised of two transmembrane chains, the target chain with intracellular transcription factor domain and the protease chain. Upon binding to designed ligands, MESA receptor dimerization induces intracellular trans-cleavage of the target chain by the protease chain, releasing engineered transcription factor into the cytoplasm. Subsequently, transcription factors translocate into the nucleus and bind to gene regulatory elements of target gene to facilitate target gene expression. Prof. Leonard's team developed MESA receptors that enable engineered cells to sense vascular endothelial growth factor (VEGF) and express IL2 as the response.

Exhibit 6. Engineered MESA Receptors That Sense VEGF and Express IL2 as the Response



Source: Northwestern University.

MESA serves as an ideal platform to endow customized functions that are not observed in nature to immune cells for therapeutic purposes. For instance, human T-cells engineered with VEGF/IL2 MESA receptors will respond to normally immunosuppressive cues (VEGF) in the tumor microenvironment by producing an immuno-stimulatory factor (IL-2).

Novel input and output signals can be designed and incorporated into MESA receptors. Computational protein design enables the construction of high-performing receptors that allow engineered cells responding to input signals with high selectivity. The team also developed an ensemble of transcription factors and promoters that can induce expression of a wide spectrum of genes, enabling customizable genetic programs in mammalian cells. This generalizable approach for rewiring cellular functions holds great promise in both translational applications and fundamental biological research.

Panel Discussion: *Hot Topics in Cancer Therapeutics and Technologies*

Simone Fishburn, PhD, VP & Editor-in-Chief of BioCentury

Dr. Fishburn moderated a panel discussion featuring Andrew Chan of Genentech/Roche, Neil Kelleher of Northwestern Proteomics, Elizabeth McNally of Northwestern Feinberg School of Medicine, and Nick Saccomano of PFE Boulder R&D. Among the hottest topics in oncology is immune checkpoint inhibitor (ICI) development, and Dr. Fishburn began by asking Dr. Chan about the long-awaited potential successor to PD-L1 antibodies, which may be Genentech/Roche's tiragolumab (anti-TIGIT antibody). Dr. Chan described TIGIT as a molecule with an immune-repressive effect, and believes that Ph2 CITYSCAPE trial of tiragolumab with atezolizumab (PD-L1 antibody) vs. atezolizumab with placebo shows that addition of anti-TIGIT in PD-L1-high 1L NSCLC patients has significant clinical benefit with safety/tolerability, and data were presented at ASCO-2020 (abstract no. 9503). Further development should involve the combination in other PD-L1-high tumors, and Dr. Chan noted that Genentech/Roche is embarking on a broad program with multiple Ph3 trials. Next, Dr. Fishburn asked about hot topics related to the future of small molecule kinase inhibitors. Dr. Saccomano noted that approved molecules have low tolerability and acquired resistance while combination synergies are not well-understood. He sees room for improvement by overcoming these problems while also enhancing efficacy by targeting metastases in distant organs such as the brain. Dr. Saccomano mentioned that future opportunities for combinations with kinase inhibitors exist in patients refractory to PD-L1 antibodies or with inherent resistance to ICIs, since kinase inhibitors have an effect on the immune system, and commented that development should focus on immunological cells not only for inactivation effects but also to prevent proliferation. Another hot topic is exon-skipping technology, and Dr. McNally described exciting advancements including drug approvals in the neuro-muscular space, such as nusinersen for SMA, and mentioned that further development should focus on delivery methodology. Dr. McNally sees broad applicability of the technology beyond rare diseases enabled by improved genetic profiling and anticipates gene editing to eventually be adopted for oncology starting in areas where non-homologous end-joining of genes is more easily accomplished. Lastly, Dr. Kelleher described proteomics in oncology as enabling an approach to biological targets by doing mass-spectrometer profiling for specific details that guide development. Dr. Kelleher noted that the startup company Integrated Protein Technologies was a CLP Institute spin-out.

Exhibit 7. Panel Discussion Moderator and Participant Profiles

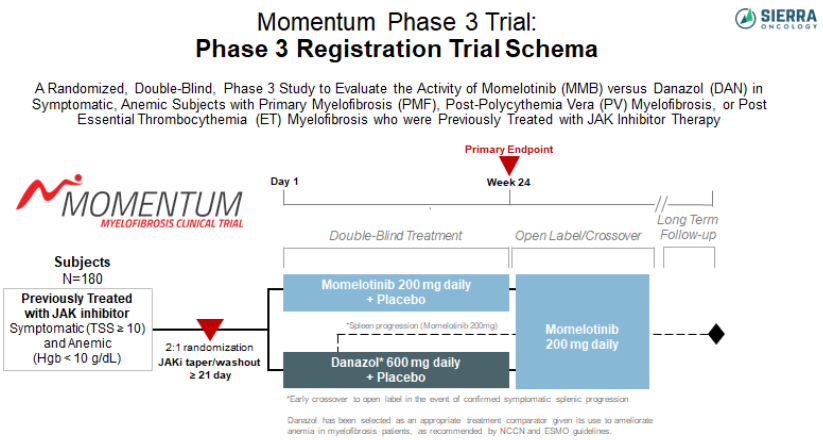
Source: Northwestern University.

Sierra Oncology (SRRA)

Barbara Klencke, MD, Chief Development Officer

Dr. Klencke outlined SRRA's focus on developing momelotinib for myelofibrosis (MF) patients with anemia and transfusion-dependency (TD), which remains a high unmet need. The pathophysiology of MF involves dysregulated JAK-STAT signaling, resulting in clonal proliferation in the bone marrow with progressive fibrosis that reduces hematopoiesis causing anemia, and triggers extramedullary hematopoiesis in the spleen, which causes splenomegaly. Constitutive activation of JAK-STAT signaling and progressive fibrosis induce both a local and systemic pro-inflammatory cytokine profile, i.e., constitutional symptoms, and hyperactivates ACVR1 signaling that elevates hepcidin transcription resulting in functional iron-deficiency anemia. MF is characterized as a coalescence of splenomegaly, constitutional symptoms, and anemia. Among progressive MF patients, 64% of patients become anemic, of which 45% are TD. Studies find worse prognosis and lower survival rates for anemic MF patients, as severe anemic MF patients have a median survival of two years. Momelotinib inhibits JAK1/2 to reduce symptoms and splenomegaly, similarly to its competitors, but also inhibits ACVR1 signaling, which lowers hepcidin levels to normalize plasma iron and thereby improve anemia. Pivotal Ph3 MOMENTUM trial initiated in 4Q19 and is designed to enroll 2L MF patients randomized 2:1 to momelotinib or danazol. Primary endpoint is total symptom score (TSS) powered for 99% significance, and secondary endpoints measuring anemia benefit are supported by previous Ph2 trials. Ph2 SIMPLIFY-2 results showed a statistically significant TSS improvement of >50% in 26% of momelotinib patients vs. 6% of patients on best-available-therapy (90% ruxolitinib) after 24 weeks in the 2L MF setting ($p<0.001$). Ph2 SIMPLIFY-1 results demonstrated a transfusion-independence (TI) rate of 66% for momelotinib patients vs. 49% for ruxolitinib patients ($p<0.001$), and additional analyses presented at ASH 2019 suggest 9.3x odds of patients requiring zero transfusions on momelotinib vs. ruxolitinib ($p<0.0001$). Additionally, an analysis of response duration showed that median time-to-loss of TI was not reached for momelotinib patients at 3-year follow-up. Dr. Klencke described the market opportunity for momelotinib based on a prevalence of 50K MF patients in North America and the EU, of which 75% are intermediate/high-risk, and foresees use in the 25% of 1L MF patients with severe anemia, and across the broader 2L setting especially in patients with anemia. Dr. Klencke believes that momelotinib is differentiated by addressing anemia in addition to splenomegaly and constitutive symptoms via JAK1/2 inhibition and ACVR1 inhibition. SRRA remains well-capitalized with $134M in cash as of 1Q20.

Exhibit 8. Pivotal Ph3 MOMENTUM Trial Design of Momelotinib in 2L MF Patients



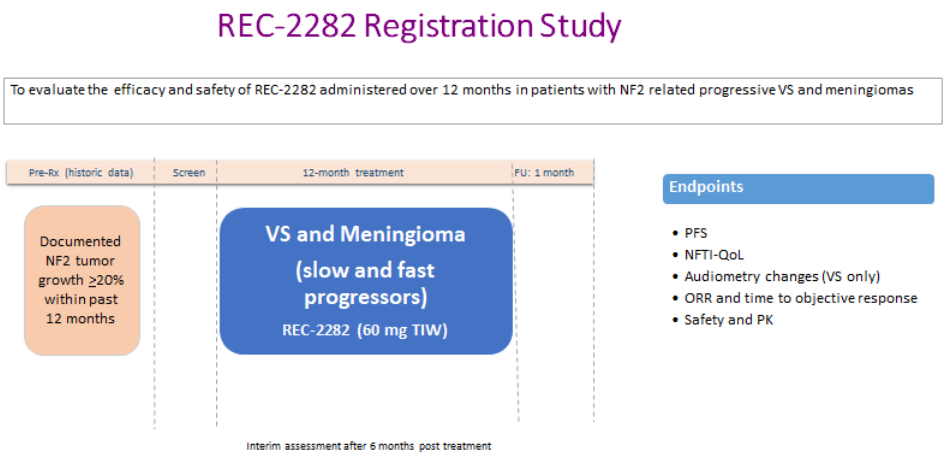
Source: SRRA Presentation.

CereXis

Mani Mohindru, PhD, CEO

Dr. Mohindru provided an overview of CereXis, formed in Jan. 2020 as a spin-out of Recursion Pharma, which is focused on rare brain tumors viz. neurofibromatosis-2 (NF2). Lead candidate is REC-2282 in NF2 with a pivotal Ph2 trial anticipated to initiate by YE20. NF2 is an autosomal dominant syndrome characterized by recurrent tumors in the brain with substantial morbidity and mortality. NF2 remains a high unmet need with no available therapies, and is caused by mutations in the NF2 gene that encodes for tumor suppressor proteins Merlin/NF2. Common tumors include vestibular schwannomas (VS) found in all NF2 patients and multiple meningioma known to occur in 50–60% of NF2 patients. Incidence is 1:25K births and diagnosis often occurs in adolescents when symptoms arise, prompting mutation testing for confirmation. VS tumors first cause bilateral hearing loss and later may alter brain-stem functions and meningiomas compress brain blood vessels. Clinical practice involves multiple surgeries for tumor resection or limited radiosurgery, but carries substantial risk. Merlin regulates the tumorigenic pathway in NF2-driven tumors via the PI3K/pAKT/mTOR pathway, and REC-2282 is an oral small molecule HDAC inhibitor that modulates the PI3K/pAKT/mTOR pathway via dephosphorylation of AKT in target tissue. Recursion Pharma identified REC-2282 by screening for known compounds using an NF2 loss-of-function model on its platform's pathway-agnostic approach that optimizes the therapeutic window, and in-licensed REC-2282 from The Ohio State University (OSU). OSU generated preclinical data informing the first Ph1 study (N=44) by Arno Therapeutics that found a maximum tolerated dose of 60mg TIW in solid tumors (N=17) including NF2, and NF2 patients (N=5) showed relatively better response with three SDs and one PR with a median PFS of 13.9 months compared to 4.4 months for the other solid tumor patients. An ongoing Ph1 study (N=5) in NF2 with 40mg TIW dosing reported data on the first three patients showing PD-2282 crosses the blood-brain barrier and achieves high concentrations within VS tumors. Based on these data, CereXis plans to initiate a pivotal Ph2 trial of REC-2282 enrolling both VS and meningioma patients with >20% NF2 tumor growth within the past 12 months. Dosing is REC-2282 60mg TIW over 12 months with 6-month interim assessment, and endpoints include PFS, NFTI-QoL, audiometry changes for VS, ORR, and safety and PK. CereXis is currently seeking Series-B financing and anticipates initiating the pivotal Ph2 trial by YE20. Later, Dr. Mohindru envisions initiating additional clinical programs in NF2-related cancers with normal NF2, and also studying REC-2282 in non-NF2 cancers also arising from dysregulation of the PI3K/AKT/mTOR pathway such as brain metastases in lung cancer. Dr. Mohindru also is an executive advisory board member of CLP.

Exhibit 9. Pivotal Ph2 Trial Design of REC-2282 in VS and Meningioma Patients



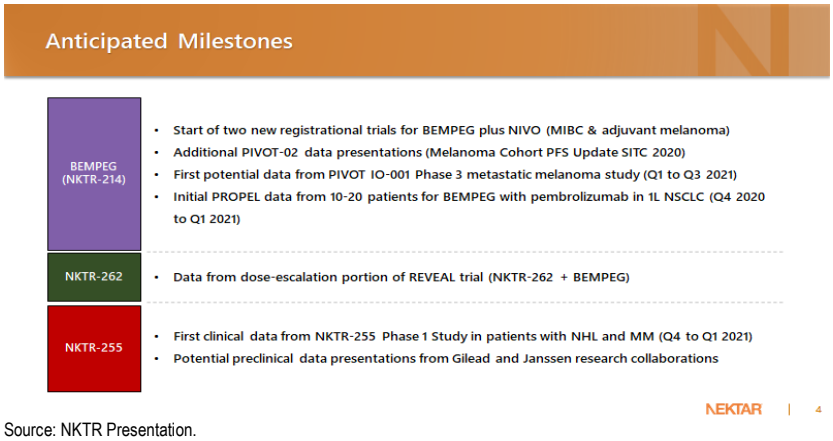
Source: CereXis Presentation.

Nektar Therapeutics (NKTR)

Jonathon Zalevsky, PhD, Chief R&D Officer

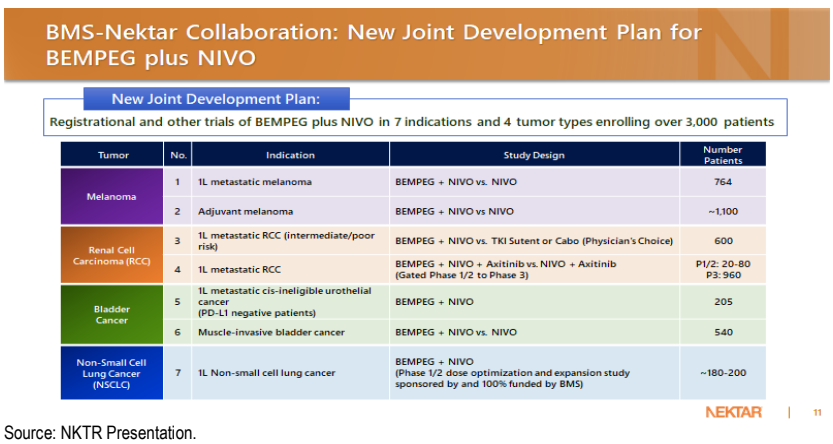
Dr. Zalevsky described NKTR as specializing in polymer chemistry with its PEGylation and polymer conjugate technologies to develop therapeutic compounds over the last ten years, and the first-ever conjugated proteins were designed using NTKR's technology platform. NKTR's oncology pipeline consists of cytokine therapeutics for oncology, and Dr. Zalevsky focused on anticipated milestones for lead candidate bempeg (CD122-biased agonist), NKTR-262 (TLR-7/8 agonist) in combination with bempeg, and NKTR-255 (IL-15 agonist) that recently entered the clinic. NKTR and collaborator BMY recently initiated a pivotal Ph3 trial of bempeg combined with nivolumab in muscle-invasive bladder cancer (MIBC), and plans to initiate a pivotal Ph3 trial in adjuvant melanoma later in 2020. NKTR recently completed an additional blinded review of data from Ph1/2 PIVOT-02 trial of bempeg plus nivolumab in 1L melanoma at SITC-2019, which showed mPFS was not reached after 21 months, and NKTR plans to present updated data at SITC-2020. Additionally, NKTR expects data in 10–20 patients from Ph1/2 PROPEL study of bempeg with pembrolizumab in 1L NSCLC in 4Q20 or 1Q21. Dr. Zalevsky described the MOA of bempeg as preferentially signaling CD122 receptors to stimulate CD8+ T-cells and NK cells, and its polymer prodrug design eliminates over-activation of IL-2 to preserve safety. Synergy with PD-1 antibodies arises from proliferation of tumor-infiltrating lymphocytes (TILs) that increases PD-L1 expression. Lastly, NKTR-262 with bempeg in Ph1/2 REVEAL trial dose-escalation portion data are expected by YE20, and NKTR-255 Ph1 data in NHL and MM are expected 4Q20 or 1Q21. Dr. Zalevsky believes that bempeg could have broad clinical utility with PD-1 antibodies while NKTR currently has multiple shots on goal.

Exhibit 10. NKTR's Oncology Pipeline Includes Several Upcoming Anticipated Milestones



Source: NKTR Presentation.

Exhibit 11. NKTR/BMY Collaboration Provides Broad Opportunities for Bempeg + Nivolumab



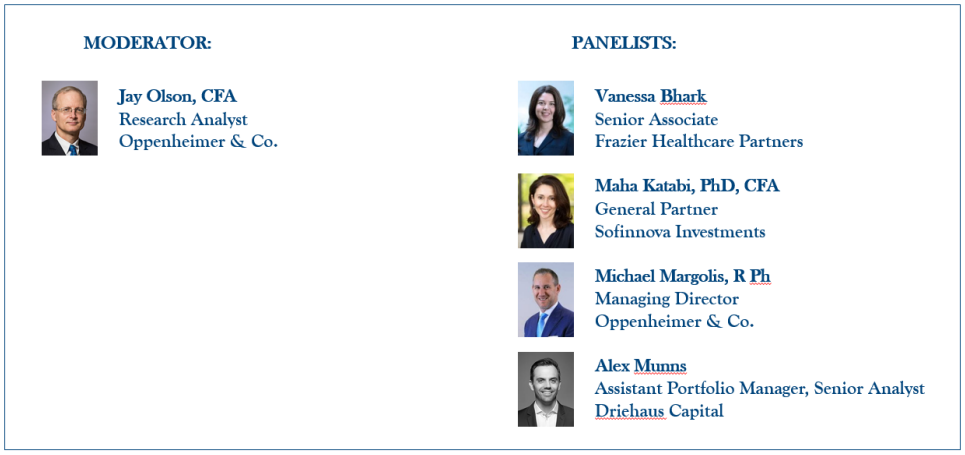
Source: NKTR Presentation.

Panel Discussion: *Financing and Investing in Oncology Biotech*

Jay Olson, CFA, Biotechnology Research Analyst at Oppenheimer & Co.

We hosted a panel discussion featuring Vanessa Bhark of Frazier Healthcare Partners, Maha Katabi of Sofinnova Investments, Alex Munns of Driehaus Capital Management, and Michael Margolis, Oppenheimer & Co.'s Co-Head of Healthcare Investment Banking. Our panelists spoke about their career experiences, various interests in biotechnology and specifically oncology, while highlighting lessons learned in Biotech equity investing and corporate financing. Backgrounds of our panelists overlap with a scientific orientation at the beginning of their educations and careers, and all also were drawn to biotechnology generally based on the science and to oncology specifically as a result of the tremendous innovation, which they found attractive from both professional and personal perspectives. Ultimately, our panelists are most excited about the growth potential in oncology fueled by Biotech companies focused on oncology with a powerful growth engine.

Exhibit 12. Our Panel Discussion Focused on Financing and Investing in Oncology Biotech

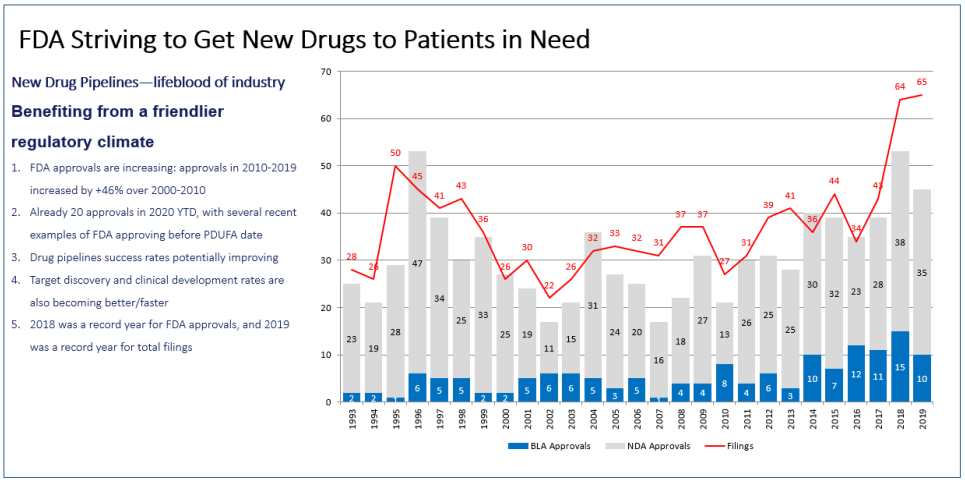


Source: Northwestern University.

We kicked-off our discussion with our analysis of financial data describing the current environment for Biotech financing and investing. We are generally optimistic about recent dynamics based on Biotech sector outperformance (NBI +11% vs. S&P500 -9% YTD, as of 5/22/2020), which we believe is driven at least in part by continued execution including continued FDA approvals for new drugs, despite the COVID-19 pandemic.

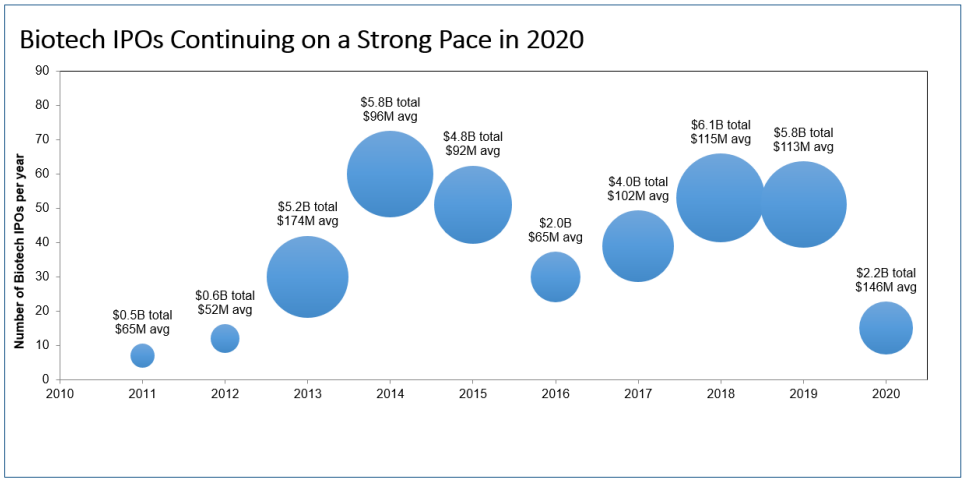
We have a positive view on the financial health of the Biotech market, as illustrated by key factors including strong VC investing, M&A deal activity, and continued IPO performance, all of which include several examples within oncology. We are especially encouraged by the 15 Biotech IPOs that launched this year, including several oncology companies, which collectively have gained +56% on average, and 13 of those are in positive territory YTD (as of 5/22/2020). We view this outperformance of Biotech IPOs as especially surprising in light of the COVID-19 pandemic, and we believe this provides additional reassurance to investors regarding the positive outlook for the Biotech sector in general.

Exhibit 13. FDA Approvals of BLAs and NDAs Have Continued Recent Strength



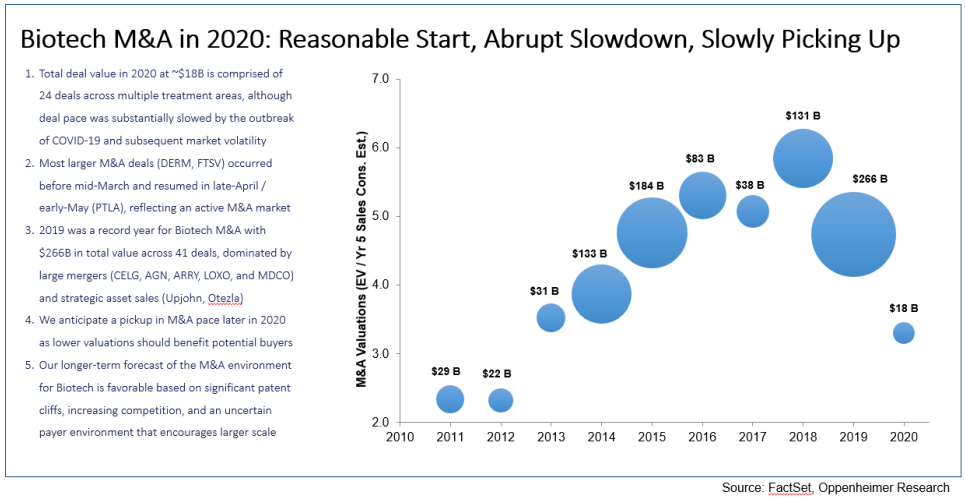
Source: FDA.gov

Exhibit 14. Biotech IPOs by Total Number and Aggregate Size from 2010 to 2020



Source: Bloomberg, FactSet, Oppenheimer Research

Exhibit 15. Biotech M&A Deals by Valuation Multiple and Aggregate Size from 2010 to 2020



Source: FactSet, Oppenheimer Research

Specific companies and modalities of interest to our panelists include those involved in cell therapies, such as IOVA based on its TILs for solid tumors including those which are refractory to checkpoint inhibitors, new checkpoint inhibitors such as Genentech/Roche's TIGIT antibody in IO/IO combinations, antibody drug conjugates (ADCs) that could offer dramatically improved efficacy in solid tumors, synthetic lethality, and protein degradation. On the diagnostic front, our panel is excited about liquid biopsies based on circulating tumor cell DNA to enable therapeutic intervention prior to metastases.

We asked our panelists about the most important lessons they have learned as investors and financiers, and how they would advise scientists and entrepreneurs seeking to raise capital for a new venture. Solid biological rationale in diseases with high unmet need, scientific expertise, innovation, and proven track records for the management team are all important. Strategic fit with the portfolio also emerged as a common theme. For example, some investors may be more comfortable with preclinical investing or certain technologies. A crucial area of advice from our panelists focused on getting the right advisor in place who has experience with investors, and leveraging that advisor's professional network. Ensuring connectivity and access to capital was expressed as a desirable theme across all stages of emerging Biotech companies, and providing balance across shareholders while avoiding any undue influence is important. Finally, the critical nature of management communication was stressed as a means to establish credibility with investors by routinely under-promising and over-delivering. Interestingly, our panelists mentioned the COVID-19 pandemic as an opportunity for the Biotech industry to collaborate on providing a noble public service while improving public perceptions.

Stock prices of other companies mentioned in this report (as of 5/29/2020):

Bristol-Myers Squibb Company (BMY-NYSE; $59.72; Not Covered)

Iovance Biotherapeutics (IOVA-NASDAQ; $32.09; Outperform)

Monopar Therapeutics Inc (MNPR-NASDAQ; $7.70; Not Covered)

Pfizer Inc. (PFE-NYSE; $38.19; Not Covered)

Roche Holdings ADR (NYSE:RHHBY; $43.35; Not Covered)

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Stock Prices as of June 2, 2020

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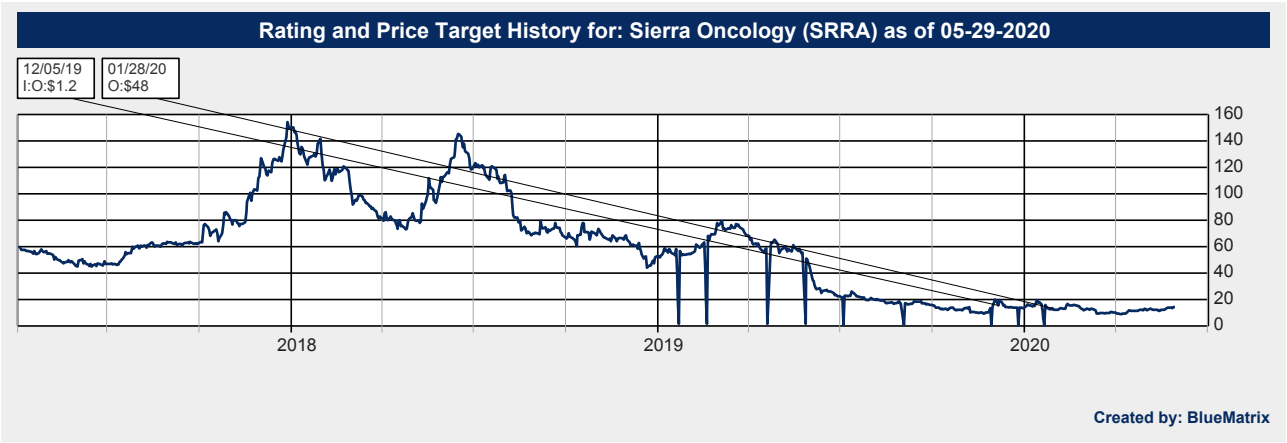
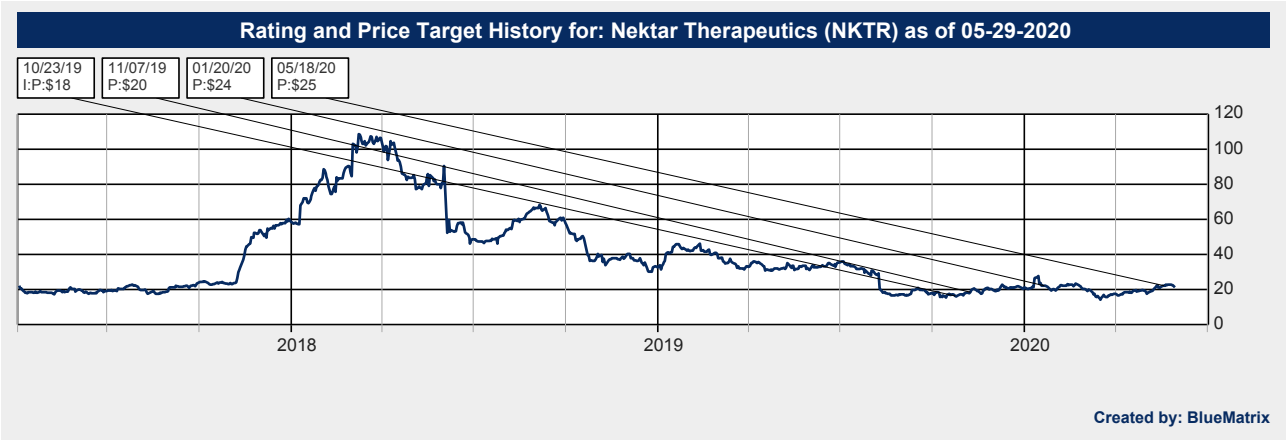
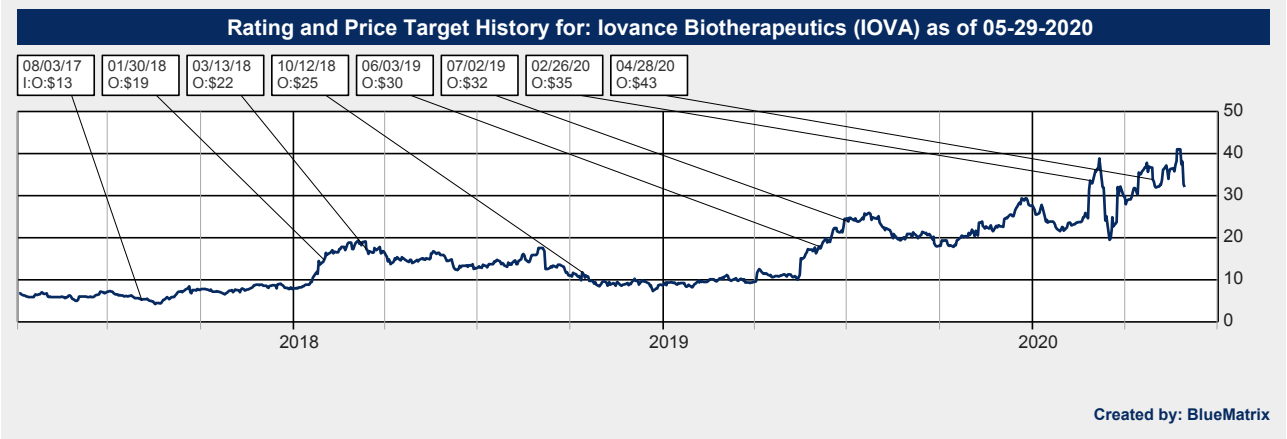
Nektar Therapeutics (NKTR - NASDAQ, $21.80, PERFORM)

Iovance Biotherapeutics (IOVA - NASDAQ, $33.32, OUTPERFORM)







All price targets displayed in the chart above are for a 12- to- 18-month period. Prior to March 30, 2004, Oppenheimer & Co. Inc. used 6-, 12-, 12- to 18-, and 12- to 24-month price targets and ranges. For more information about target price histories, please write to Oppenheimer & Co. Inc., 85 Broad Street, New York, NY 10004, Attention: Equity Research Department, Business Manager.

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Distribution of Ratings/IB Services Firmwide

			IB Serv/Past 12 Mos.	
Rating	Count	Percent	Count	Percent
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PERFORM [P]	206	34.11	70	33.98
UNDERPERFORM [U]	3	0.50	0	0.00

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