CHIMERIX

DEDICATED TO PREVENTING AND TREATING LIFE-THREATENING VIRAL INFECTIONS

Corporate Overview

November 15, 2016

Forward-Looking Statements

These slides and the accompanying oral presentation contain forward-looking statements and information within the meaning of the Private Securities Litigation Reform Act of 1995 that are subject to risks, uncertainties and other factors, including the possibility that there may not be a viable continued development path for brincidofovir, that FDA and other regulatory authorities may not approve brincidofovir or brincidofovir-based regimens, and that marketing approvals, if granted, may have significant limitations on their use. As a result, brincidofovir may never be successfully commercialized. In addition, Chimerix may be unable to file for regulatory approval for brincidofovir with other regulatory authorities. These risks, uncertainties and other factors could cause actual results to differ materially from those referred to in the forward-looking statements. The reader is cautioned not to rely on these forward-looking statements. These and other risks are described in detail in Chimerix's Quarterly Report on Form 10-Q for the quarter ended September 30, 2016, as filed with the U.S. Securities and Exchange Commission. All forward-looking statements are based on information currently available to Chimerix, and Chimerix assumes no obligation to update any such forward-looking statements.

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Chimerix's Mission Reflects our Dedication to Patients

To discover and develop medicines that improve outcomes for immunocompromised patients

- Nearly 1 in 5 allogeneic hematopoietic cell transplant (HCT) recipients does not survive the first year after transplant
  - A majority of the fatal outcomes are associated with viral or fungal infections
- Recipients of solid organ transplants (SOT) receive immune suppressing agents to avoid rejection, but these agents increase the risk of viral infections that can result in loss of the new graft
- Brincidofovir has shown broad-spectrum antiviral potency in preventing and treating DNA virus infections, even in patients who have longstanding immune dysfunction
- Brincidofovir has demonstrated a positive impact on survival in a lethal rabbitpox model of smallpox, and adequate safety to support short-term dosing relevant for this indication

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Chimerix: Our Path Forward

- Oral Brincidofovir
  - Nearly 900 individuals have received brincidofovir for adenovirus infection
  - Treatment of life-threatening AdV and smallpox are anticipated first indications
- IV brincidofovir
  - Initial data from single-dose administration of IV brincidofovir will be presented in early 2017
  - Development and regulatory paths for CMV prevention and treatment in HCT and SOT recipients under discussion with FDA and EU regulatory agencies
- CMX521
  - Nucleoside analog from the Chimerix Chemical Library, CMX521, is currently in IND-enabling studies; human POC targeted for end of 2017
- Discovery:
  - Targeted screening of Chimerix Chemical Library continues for other viruses with unmet medical need

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Brincidofovir: Potent Activity Against DNA Viruses that Cause Disease in Humans

Viral Family	Virus	Brincidofovir	Maribavir	Letermovir	Cidofovir	Ganciclovir*	Foscarnet	Acyclovir
Herpes	Cytomegalovirus	0.001	0.31	0.005	0.4	3.8	50-800	>200
	Epstein-Barr Virus	0.03	0.63	>10	65.6	0.9	<500	6.2
	Human Herpesvirus 6	0.003	Inactive	>10	2.7	5.8	16	10
	Human Herpesvirus 8	0.02	Inactive	—	2.6	8.9	177	>100
	Herpes Simplex Virus 1	0.01	Inactive	>10	3.0	0.7	92-95	3.8
	Herpes Simplex Virus 2	0.02	Inactive	>10	6.5	2.5	91-96	4.4
	Varicella Zoster Virus	0.0004	Inactive	>10	0.5	1.3	39.8	3.6
Adenovirus	Adenovirus (AdV-B7)	0.02	—	>10	1.3	4.5-33	Inactive	>100
Polyoma	BK Virus (BKV)	0.13	—	—	115	>200	Inactive	>200
	JC Virus (JCV)	0.045	—	—	>0.1	—	Inactive	—
Papilloma	Human Papillomavirus	17	—	—	716	Inactive	—	Inactive
Pox	Variola	0.1	—	—	27	—	—	—
	Vaccinia	0.8	—	—	46	>392	Inactive	>144

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Brincidofovir's Broad Spectrum of Activity Allows Pursuit of Multiple Indications

- Brincidofovir has patent protection through 2034
- In the US, brincidofovir has Fast Track Status from the FDA for Smallpox (Jul 2005), Adenovirus (Dec 2010), and CMV Indications (Feb 2013). Fast Track Status allows for more rapid review of regulatory submissions to the FDA.
- In the EU, Orphan Medicinal Product Designation has been granted for Smallpox (Oct 2016), Adenovirus (Jun 2016) and CMV (Mar 2016). Orphan Designation provides additional exclusivity for the populations designated in the decision.
- Chimerix is well-capitalized to deliver on our planned catalysts
  - $288M in capital as of Sept 30, 2016

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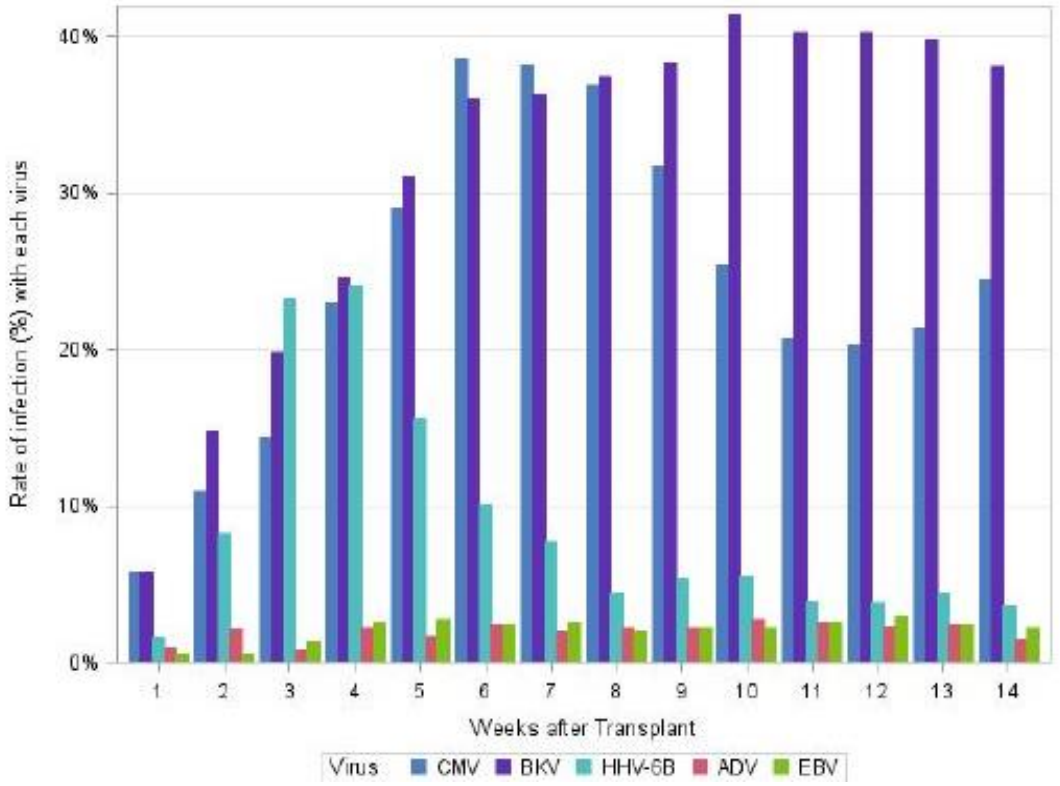
DNA Viral Infections Are Frequent, Persistent and Associated with Mortality after Allogeneic HCT

- Weekly plasma samples from >400 HCT recipients tested weekly for DNA viruses
- Higher mortality risk associated with: a) detection of multiple DNA viruses[1] and b) the quantity and duration of viremia with CMV, AdV, EBV, HHV6, BKV[2] were associated with mortality, even after controlling for acute GVHD



Better prevention strategies are needed to improve outcomes for transplant recipients

[1] Hill J et al. Tandem BMT 2016, Honolulu, HI.
[2] Hill J et al. ID Week 2016, New Orleans, LA

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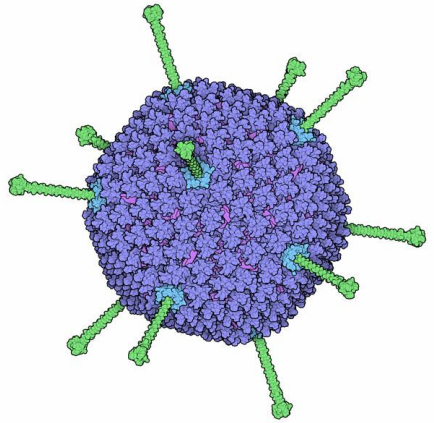
Adenovirus



- Non-enveloped lytic DNA virus, first described in 1953
  - More than 70 serotypes have been identified
  - Persists in lymphoid tissue and epithelial cells
- Generally self-limited, but severe manifestations may occur even in healthy individuals: pneumonia, encephalitis and myocarditis[1,2]
- Recognition of severe AdV infection in HCT/SOT is increasing
  - Greater awareness of AdV & availability of FDA-approved sensitive PCR allow for earlier diagnosis
  - Increased use of alternative donor transplants for recurrent hematologic malignancies has increased the rate of serious AdV
- Plasma viremia often very high (10^6 to 10^9 copies/mL) and strongly associated with fatal outcomes[3,4]
- Currently no approved therapy; off-label use of cidofovir and decreasing immunosuppressive therapy have significant limitations

1. Ison M. EID 2016 2. Cooper LT. NEJM 2009
3. Bruno et al. BBMT 2003 4. Lion et al. Blood 2003

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Brincidofovir (BCV, CMX001)

- BCV is a broad-spectrum antiviral with high *in vitro* potency against all AdV subtypes
- Intracellular cleavage of BCV allows cidofovir to be delivered directly to the site of viral replication, improving antiviral efficacy and limiting plasma cidofovir exposure
- BCV is not associated with nephrotoxicity or myelotoxicity[1,2]
- BCV has shown promise as:
  - Pre-emptive treatment of asymptomatic AdV viremia in allogeneic HCT (allo-HCT) recipients in a placebo-controlled Phase 2 study
  - Treatment for serious AdV infection or disease under compassionate use regulations[3–6]

1. Papanicolaou G, et al. Presented at the European Society for Blood and Marrow Transplantation (EBMT) meeting, April 2014. 2. Morrison M, et al. Presented at the World Transplant Congress, July 2014. 3. Grimley M, et al. Presented at the EBMT meeting, April 2013. 4. Florescu DF, et al. *Biol Blood Marrow Transplant* 2012;18:731–8. 5. Grimley M, et al. Presented at BMT Tandem, February 2014. 6. Prasad VK, et al. Presented at BMT Tandem, February 2014.

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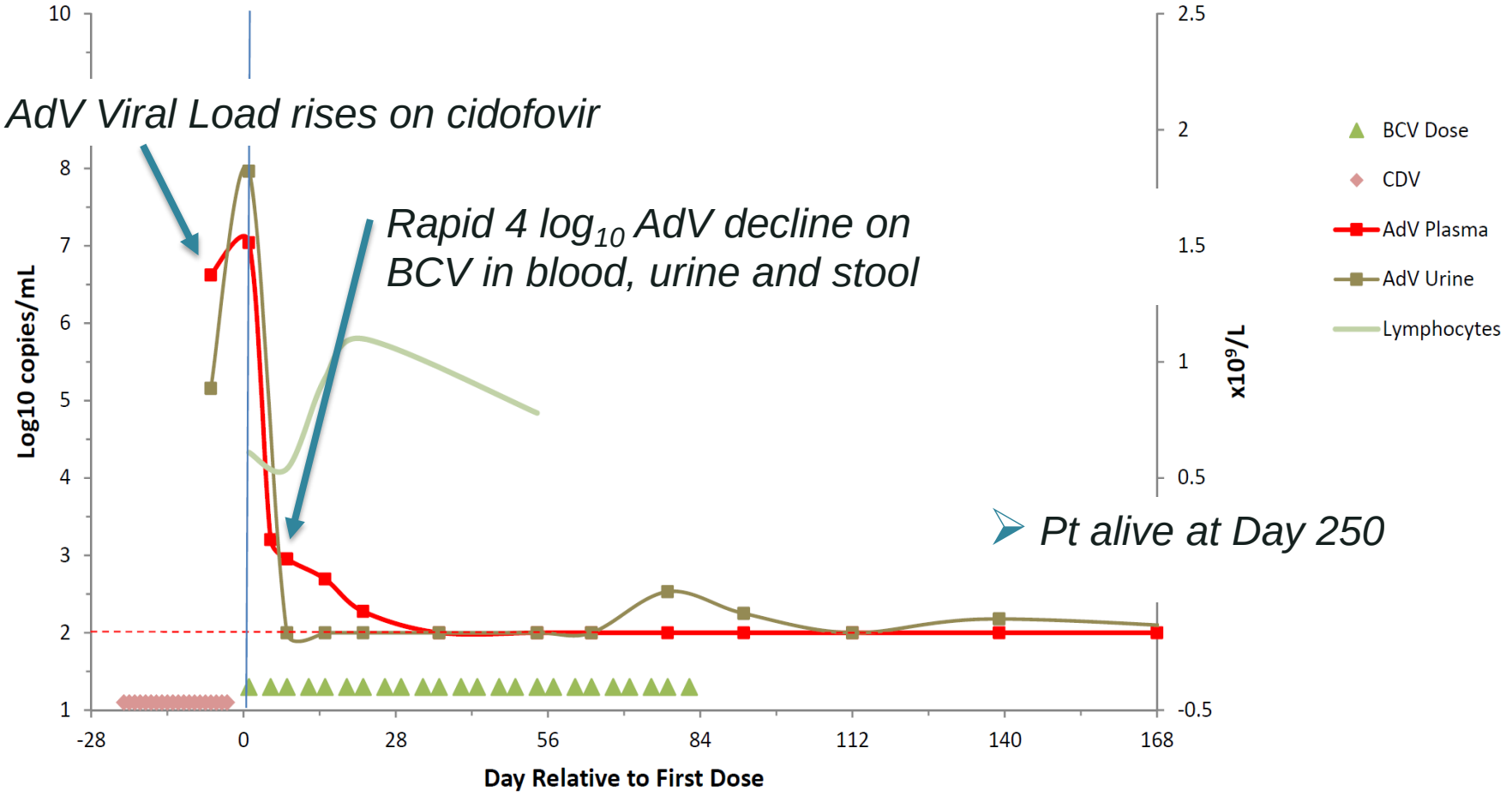
AdVise: Brincidofovir Delivered Robust Antiviral Response after IV Cidofovir Failure

- 2 yo cord blood HCT recipient with life-threatening AdV infection



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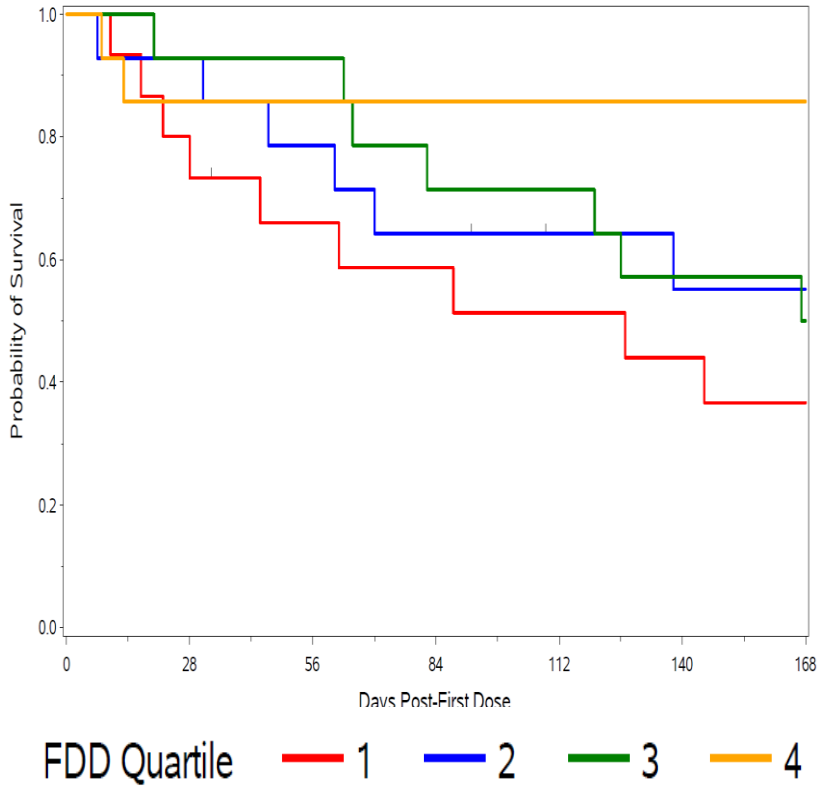
AdVise: 14% Mortality in Final Quartile of Pediatric Patients with Disseminated Adenovirus

- Initial pts had been “warehoused” w extensive cidofovir use, high AdV viral load, longest period from diagnosis to first BCV dose
- Patients received brincidofovir more quickly after AdV diagnosis



	First Quartile (n=15)	Fourth Quartile (n=14)
>2 doses cidofovir	**11** (73%)	**2** (14%)
Days from AdV diagnosis (median, IQR in days)	**22** (12, 44)	**6.5** (4, 9)
AdV VL (median, IQR in log_{10} c/mL)	**5.4** (3.1, 6.1)	**3.6** (2.3, 5.8)

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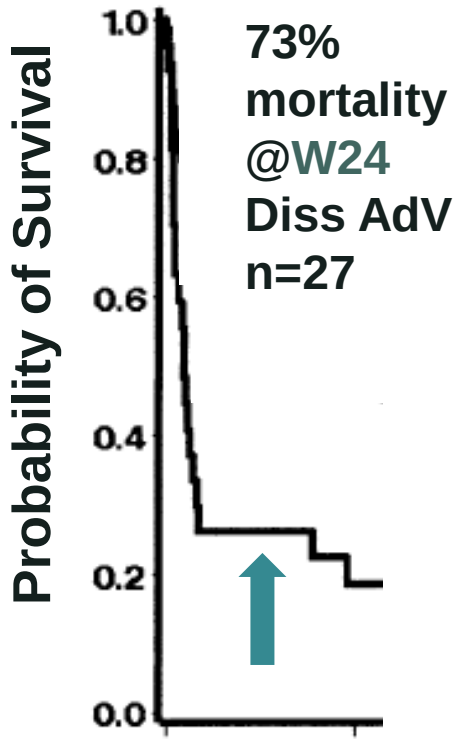
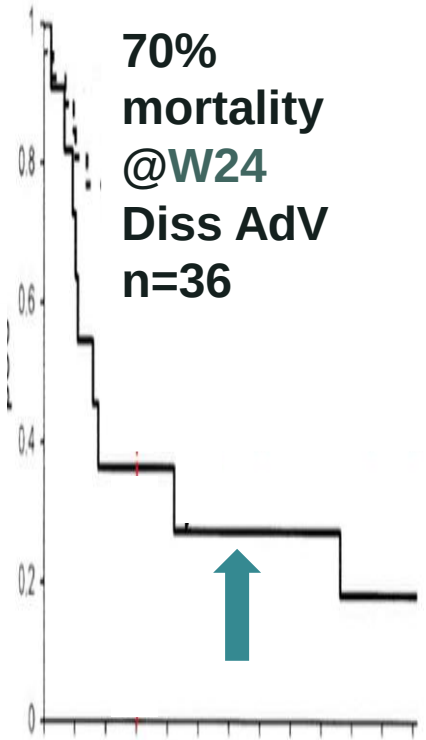
AdV-Related Mortality after Allogeneic HCT: 60-70+% at Week 24



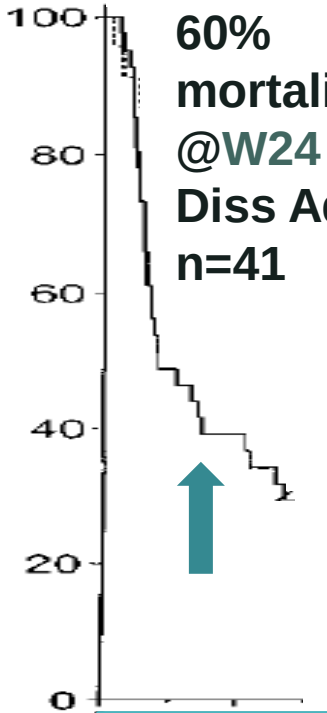
73% mortality @W24 Diss AdV n=27

1st yr post-HCT
Bruno BBMT 2003



70% mortality @W24 Diss AdV n=36

1st yr post-HCT
Lion Blood 2003



60% mortality @W24 Diss AdV n=41

1st yr post-HCT
Howard CID 1999

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AdVise: Conclusions

- Rapid declines in AdV viral load were observed with BCV, even in HCT recipients with low CD4 counts at baseline
  - In patients with disseminated disease, rapid virologic response was associated with better overall survival
- All-cause and AdV-associated mortality were lower in pediatric patients than in adult patients, and BCV was better tolerated in pediatric patients
  - Screening for AdV in pediatric allo-HCT leads to earlier diagnosis
- A period effect was demonstrated when enrollment period was included as a covariate
  - Rapid diagnosis of AdV and ability to begin BCV without delay appear to drive improved mortality seen in the fourth quartile of pts
  - A low discontinuation rate due to AEs was seen in pediatric subjects; no nephrotoxicity or myelosuppression was noted
- These data support the continued development of BCV as a potential therapeutic for AdV

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Oral BCV for AdV: Ongoing Discussions with FDA and EU Regulators

- We anticipate conducting a small, open label, comparative trial of brincidofovir vs. standard of care
- Endpoint: AdV viral load may be acceptable surrogate endpoint in EU
- Population: pediatric patients <18 yrs
- Inclusion criteria:
  - AdV viral load >1000 c/mL in the first 100 days post-HCT
  - Symptoms consistent with AdV reactivation
- Exclusion criteria:
  - Patients unlikely to survive 4 weeks (e.g., sepsis, hepatic veno-occlusive disease, invasive fungal infections, secondary graft failure, etc.)
- Planning to initiate Study 999 in 2017
- Additional, supportive data are being compiled and published from several European consortia of pediatric transplant physicians comparing responses on brincidofovir to current management

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Demand for Brincidofovir Remains Strong

- More than 800 Patients with AdV Have Received Brincidofovir 2009-2016 through Expanded Access and Emergency INDs

	Pediatrics		Adults		TOTAL
	Asymptomatic	Symptomatic[a]	Asymptomatic	Symptomatic[a]	All
EINDs/NPP	-	295	-	212	514[b]
Study 202	24	3	10	2	39[c]
Study 304	51	79	23	48	201[d]
Study 350	10	19	5	23	68[e]
Study 351	3	46	1	17	68[f]
Total	88	442	39	302	**890**

a) Includes local and disseminated AdV disease
b) Includes 7 pts whose age is not known; assumes that EIND/NPP pts are symptomatic.
c) Includes 9 patients who received open-label BCV
d) Asymptomatic = no signs and symptoms related to AdV
e) From Grimley et al. EBMT 2013; total numbers includes all subjects with AdV identified as a primary or secondary DNA viral infection that could not be classified (N=68)
f) Ongoing expanded access protocol, n=68 as of 31 Oct 2016.

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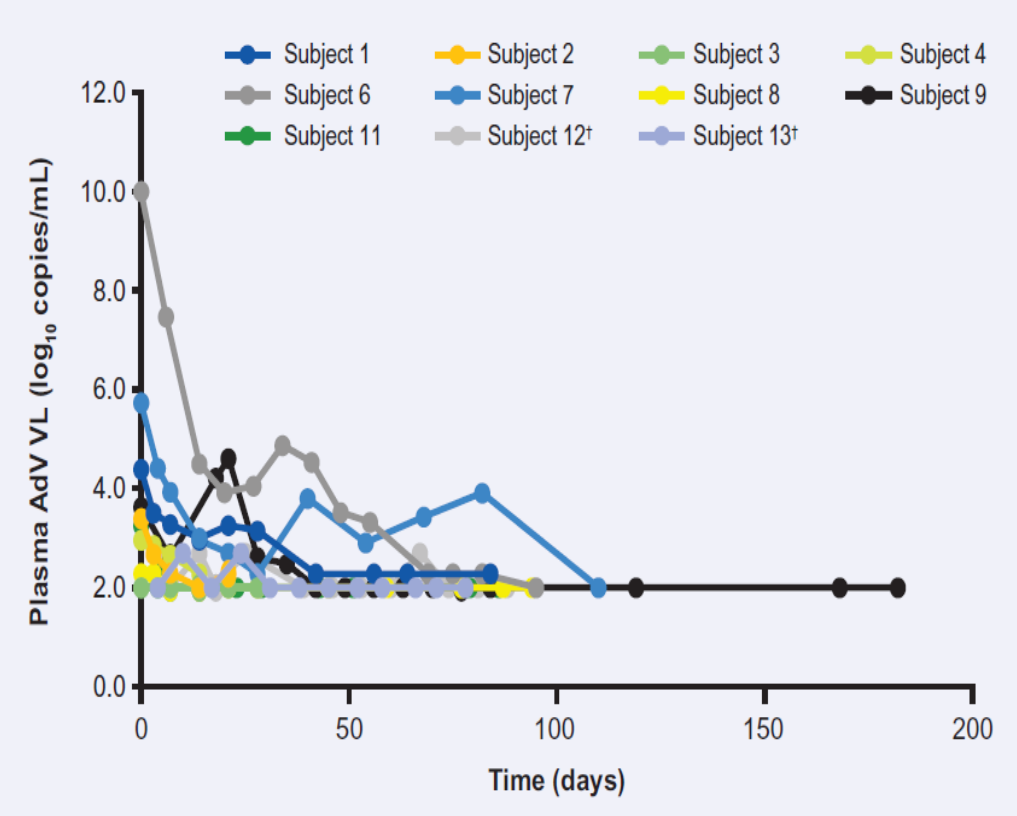
Brincidofovir Has Also Demonstrated Clearance of AdV in Liver Transplant Recipients with AdV Hepatitis



Limit of detection = 2.0 $\log_{10}$ c/mL

- 13 liver transplant recipients Rx'ed BCV for AdV[1]
- Median change from BL in VL: –1.3 $\log_{10}$ c/mL (–8.0, –0.3 $\log_{10}$), median time to nadir VL was 15 days
- 1 pt d/c BCV for diarrhea
- 12/13 survived; 7/8 with disseminated AdV disease
- Survival in this predominantly pediatric liver transplant cohort compares favorably to published data of up to 53% mortality[2]

[1] Florescu DF. ID Week 2015, Poster 1227
[2] Echavarría M. *Micro Rev* 2008;21:704–15

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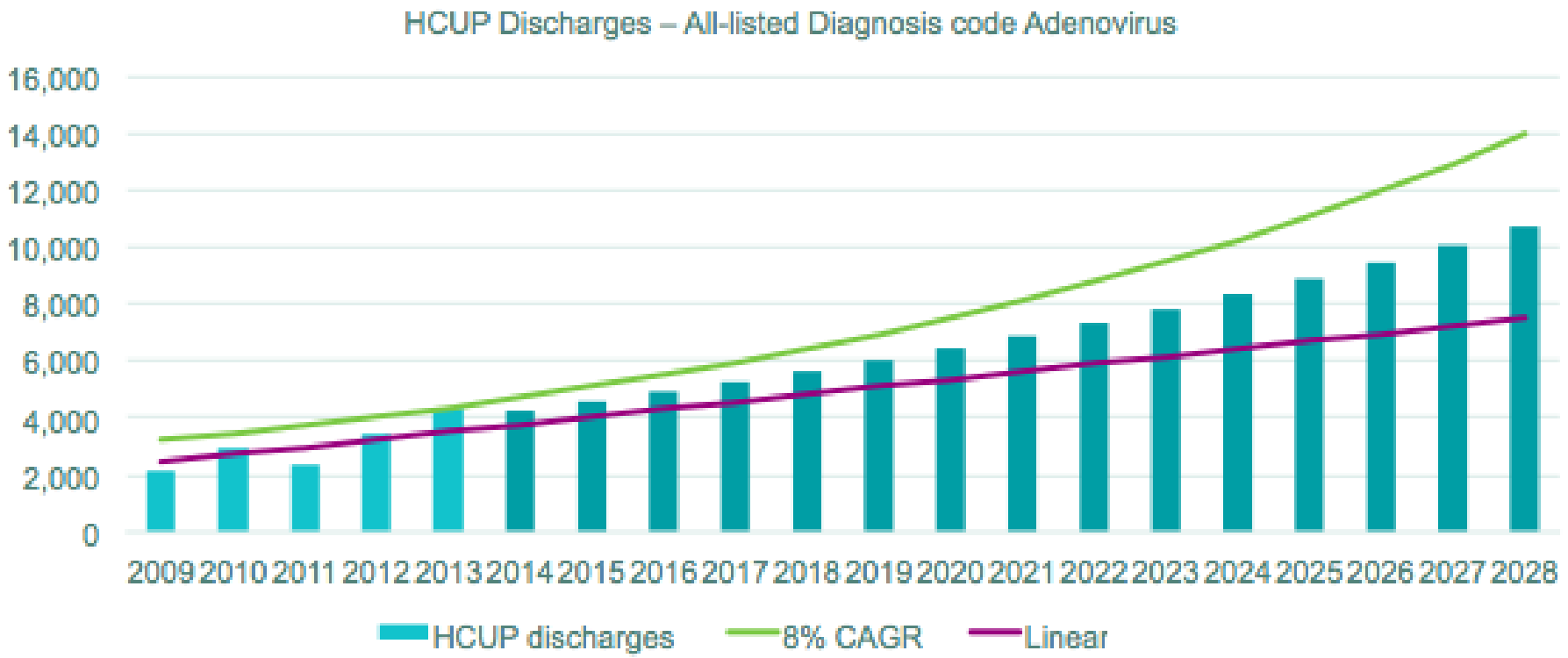
With over 6000 Estimated Serious AdV Infection Hospitalizations Annually in US, Other Patient Populations are Clearly At Risk



US AdV-Related Hospitalizations: 2009-2013 Actual, Trended From 2014

Hospital Costs and Utilization HCUP database – historical CAGR (2009-2013) is 8%, linear trend CAGR is 5%

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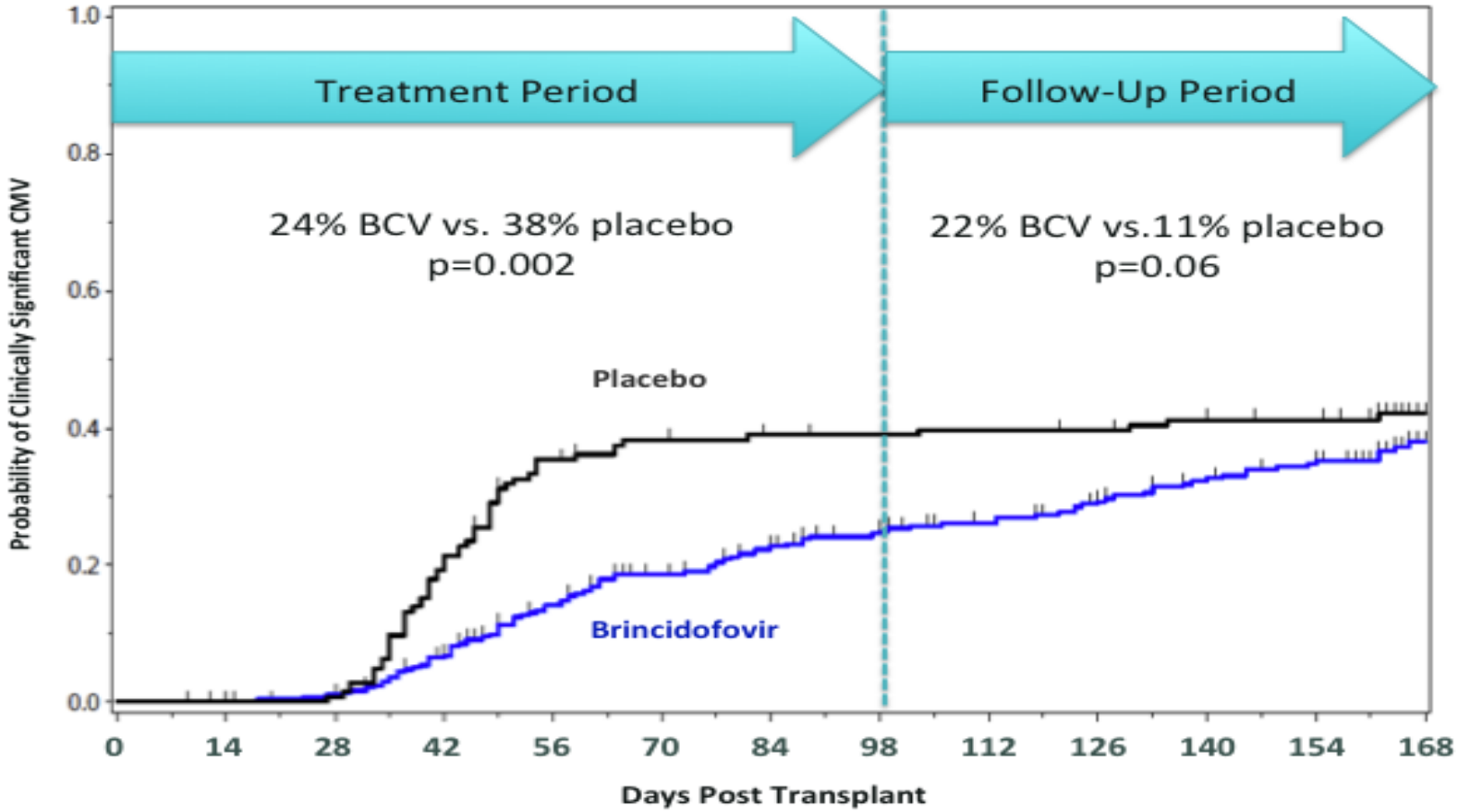
CMV Prophylaxis: Brincidofovir Provided Statistically Significant Prevention of CMV During Dosing, But Steroids for Presumed GVHD allowed CMV Breakthrough



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Intravenous Formulation of Brincidofovir Decreases Local Exposure to Gut

- IV administration of BCV has a high likelihood of GI irritation and decrease incidence of diarrhea while providing adequate therapeutic exposures
- Higher plasma drug levels have not been linked to GI side effects
- Maintain established brincidofovir benefits:
  - no bone marrow suppression
  - no kidney toxicity
- Initial human data from Single Ascending Dose anticipated in early 2017
- IV BCV dose that provides same plasma exposure as oral BCV 100 mg BIW to move forward for prophylaxis trials in HCT recipients

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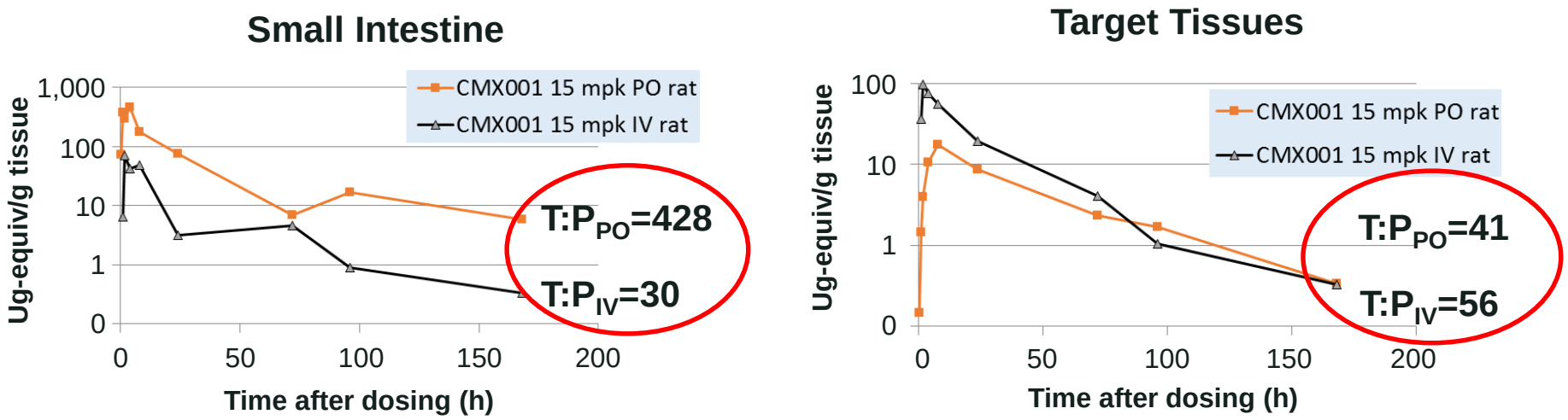
IV Brincidofovir Delivers Adequate Antiviral to Target Tissues Without Gut Overexposure



T:P=tissue:plasma ratio based on AUC

- Brincidofovir administered by oral formulations results in **10X higher drug exposures** in the small intestine, with unintended irritation of the gut
- Both oral and IV brincidofovir deliver adequate drug to targeted tissues to provide antiviral efficacy

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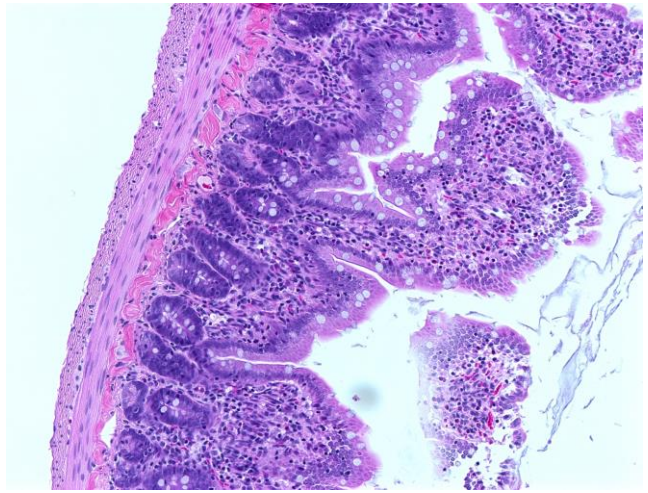
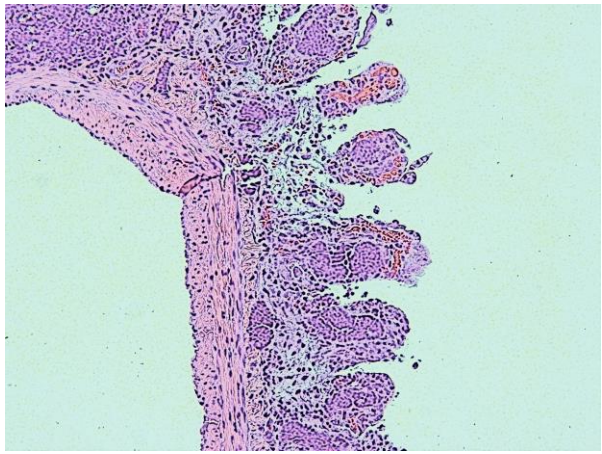
Chronic Oral Dosing Brincidofovir Can Result in Gut Irritation

Normal intestine

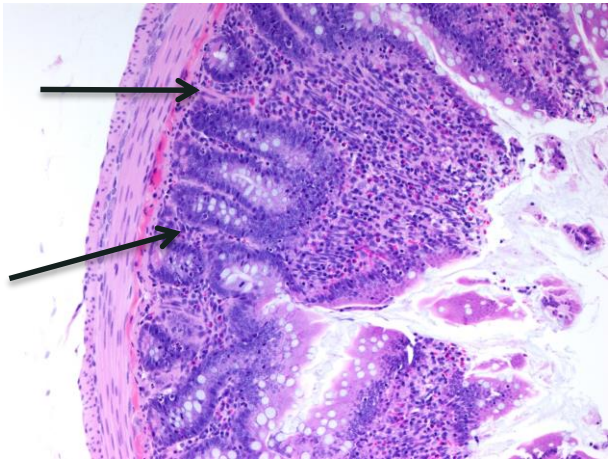


- Normal lymphoid tissue and mucosa
- Villi project into the lumen
- Covered with tall epithelial cells

Intestine after oral BCV



- Ragged villi with loss of epithelial cells
- Visible areas of necrosis



- Preserved mucosa with rare single cell apoptosis

Intestine after IV BCV

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Potential Indications for IV Brincidofovir (BCV)

- IV BCV ~40 mg weekly estimated to provide similar weekly exposure as oral BCV 100 mg BIW
  - Prophylaxis to prevent reactivation of multiple known DNA viruses associated with poor outcomes in the first months following transplant
  - Once dose of IV BCV is determined, would allow rapid initiation of pivotal studies in patients with high unmet need
- IV BCV at higher exposures could provide much-needed therapeutic option for BK virus in kidney and stem cell transplant recipients
- IV BCV has demonstrated greater penetration to the brain which may allow therapeutic administration for viruses such as herpesvirus, HHV-6, and JCV which are associated with devastating neurologic outcomes in adults and children

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Smallpox: Progress Toward Regulatory Approvals and Procurement Contracts with US and Ex-US Governments

- Efficacy via two animal model studies under FDA's Animal Rule
  - Pivotal Rabbitpox Efficacy Study demonstrated 100% survival in animals treated immediately with brincidofovir at the time of confirmed infection
  - Ectromelia (mouse) Efficacy Study results in early 2017
  - Human safety summary of 3 weeks' exposure to oral brincidofovir submitted to FDA and manuscript submitted to peer-reviewed journal
- Discussion with FDA following availability of second efficacy study data
- EU regulatory approvals generally follow FDA approval
- Potential for US Procurement to the Strategic National Stockpile, independent of regulatory decisions
- Potential procurement opportunities with ex-US allied governments

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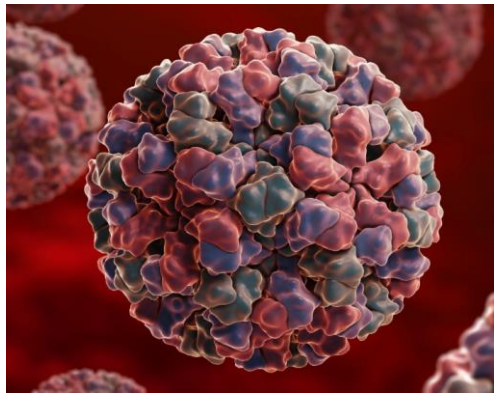
Human Norovirus: CMX521



- RNA viruses with many circulating strains
- Worldwide: ~700M cases/year
- US: ~20 million cases/year
  - Most outbreaks (>60%) in US are in health care facilities
  - 15-20% HCT/SOT diagnosed with chronic norovirus infection in first year after transplant; associated with severe diarrhea and graft rejection[1]
- CMX521: nucleoside from Chimerix Chemical Library, targets conserved RNA polymerase which provides broad in vitro activity against diverse strains

	EC50 (μM)	CC50 (μM)	SI
Norovirus	2.1 (n=33)	114	54

- Proof-of-concept established in mouse model with oral delivery
- High barrier to resistance *in vitro*
- IND and clinical studies anticipated in 2017 could allow two indications in prophylaxis and treatment of chronic disease

1. Roos-Weil et al, *Transplantation* 2011

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Chimerix: Our Path Forward

- Oral Brincidofovir: Continue development for treatment of AdV and smallpox as first indications
- IV Brincidofovir
  - Establish IV BCV dose to deliver equivalent exposures shown to prevent AdV/CMV and other DNA viruses (oral BCV 100 mg BIW)
  - Evaluate higher doses/exposures to pursue treatment of BKV in kidney transplant recipients, other DNA viruses in CNS infections
- Norovirus: CMX521 for norovirus in IND-enabling studies; IND and FTIH targeted for end of 2017
- Discovery: Targeted screening of Chimerix Chemical Library continues for other viruses with unmet medical need
- $288 million in capital is sufficient to fund operations through anticipated catalysts in 2017

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