CHIMERIX

DEDICATED TO PREVENTING AND TREATING LIFE-THREATENING VIRAL INFECTIONS

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President and CEO
January 2017

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 any clinical trials we may conduct will not demonstrate adequate efficacy and safety of brincidofovir, that the 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 and other documents subsequently filed with or furnished to 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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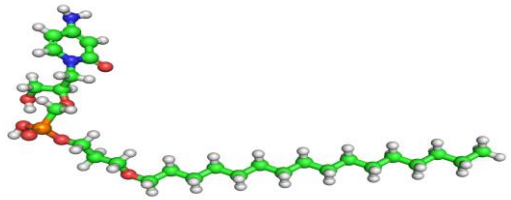
Brincidofovir (BCV, CMX001)



- Broad-spectrum antiviral with high *in vitro* potency against all herpes viruses, adenovirus subtypes, other DNA viruses that cause human disease
- Oral and IV formulations in development
  - Both formulations deliver BCV to blood and cells known to carry DNA viruses
  - Cleavage of lipid side-chain occurs in the cell, delivering the active antiviral directly to the site of viral replication
  - Not associated with kidney toxicity or hematologic toxicity[1,2]
- Potential indications:
  - Prevention of serious viral infections in stem cell transplant recipients (HCT)
  - Treatment of serious AdV infection and disease
  - Treatment of smallpox
  - Treatment of BK virus in kidney and HCT transplant recipients

BCV is the only broad spectrum antiviral with demonstrated potency against a variety of DNA viruses, a high barrier to resistance, no kidney or hematologic toxicity, and patent protection until 2034

1. Papanicolaou G, et al. European Society for Blood and Marrow Transplantation (EBMT), April 2014.
2. Morrison M, et al. World Transplant Congress, July 2014.

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BCV: Only Broad Spectrum Antiviral in Development

Viral Family	Virus	BCV	Cidofovir	Maribavir	Letermovir	Ganciclovir*	Foscarnet	Acyclovir
Herpes	Cytomegalovirus	0.001	0.4	0.31	0.005	3.8	50-800	>200
	Epstein-Barr Virus	0.03	65.6	0.63	>10	0.9	<500	6.2
	Human Herpesvirus 6	0.003	2.7	Inactive	>10	5.8	16	10
	Human Herpesvirus 8	0.02	2.6	Inactive	—	8.9	177	>100
	Herpes Simplex Virus 1	0.01	3.0	Inactive	>10	0.7	92-95	3.8
	Herpes Simplex Virus 2	0.02	6.5	Inactive	>10	2.5	91-96	4.4
	Varicella Zoster Virus	0.0004	0.5	Inactive	>10	1.3	39.8	3.6
Adenovirus	Adenovirus (AdV-B7)	0.02	1.3	—	>10	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

Potency expressed as EC_{50} = concentration in µM required to reduce viral replication by 50% *in vitro;* "—" indicates no data.
*Valganciclovir is rapidly converted to ganciclovir *in vivo*; ganciclovir is the relevant compound for cell activity studies.
Source: Data are compiled from multiple sources and include multiple materials and methodologies.

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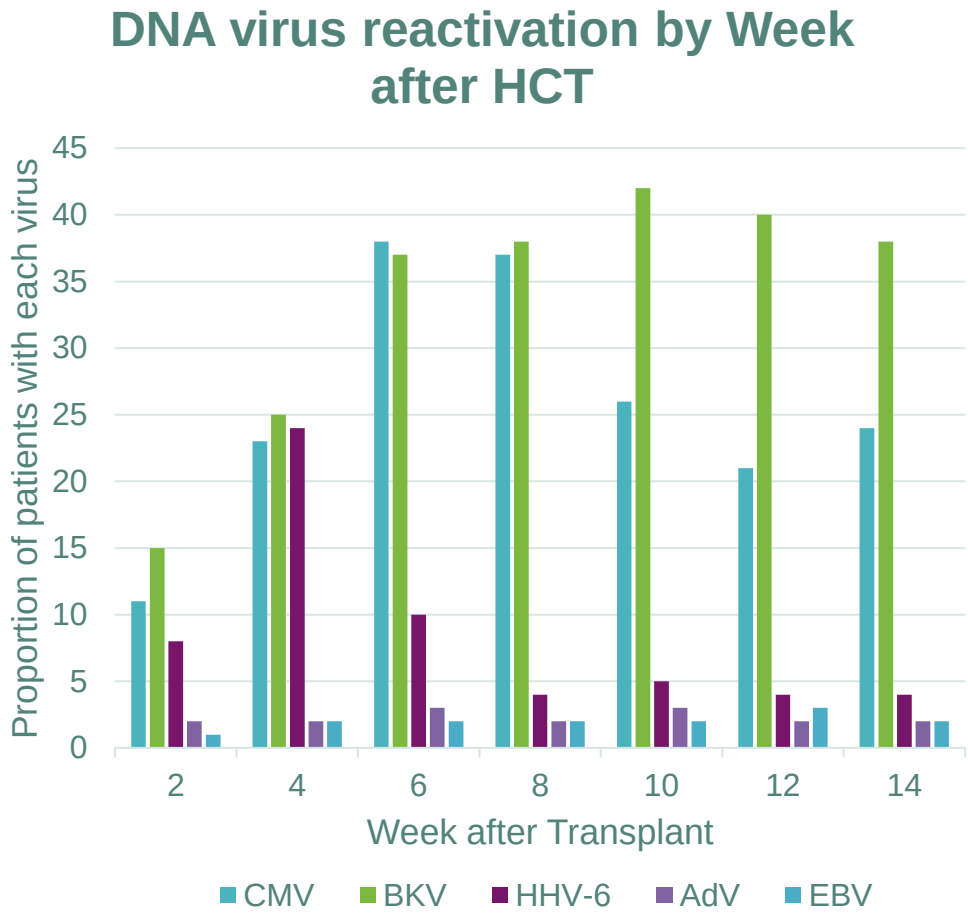
Stem Cell Transplant (HCT) Recipients are at High Risk of Viral Disease and Mortality

- Allogeneic stem cell transplant (HCT) recipients face 20% mortality in the first year after transplant
- DNA viruses commonly reactivate in these patients as early as the first week after transplant

Risks for higher mortality:

- Reactivation of more than one virus[1]
- Increased viral burden: quantity and duration of CMV, AdV, EBV, HHV-6, BKV in plasma[2]



No antivirals are approved for prevention of DNA viruses after stem cell transplantation

400+ HCT Recipients at Fred Hutchison Cancer Research Center

[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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BCV Market Potential: Global Opportunities in Transplant and Malignancies




TRANSPLANTS PER YEAR	US	European Union (28)	ROW	TOTAL
HCT				
Allogeneic	8,500	16,400	8,500	33,400
Autologous	14,000	21,700	12,000	47,700
HCT TOTALS	22,500	38,100	20,500	81,100
SOT				
Kidney	18,600	20,000	40,700	79,300
Liver	7,100	7,400	10,500	25,000
Other SOT	5,200	4,500	1,400	13,800
SOT TOTALS	30,900	31,900	52,600	118,100
TOTAL TRANSPLANT	53,400	70,000	73,100	199,200
CANCER				
Hematological Malignancies	138,000	232,000	112,000	614,000

US HCT: 2014 figures from CIBMTR. Auto-HCT are increased by 20% to account for under-reporting to CIBMTR. US SOT: 2015 figures from Organ Procurement and Transplantation Network (OPTN). EU HCT: JR Passweg, et al., HSCT in Europe 2014, nature.com/bmt, 2016. ROW HCT: 2013 figures from EBMT Activity Office (Bone Marrow Transplantation 2015 (50);476-482). TOTAL HCT: US + EU + ROW. EU & TOTAL SOT: Newsletter Transplant – International Figures On Donation And Transplantation 2014; EDQM, volume 20, 2015. ROW SOT: Total - EU - US

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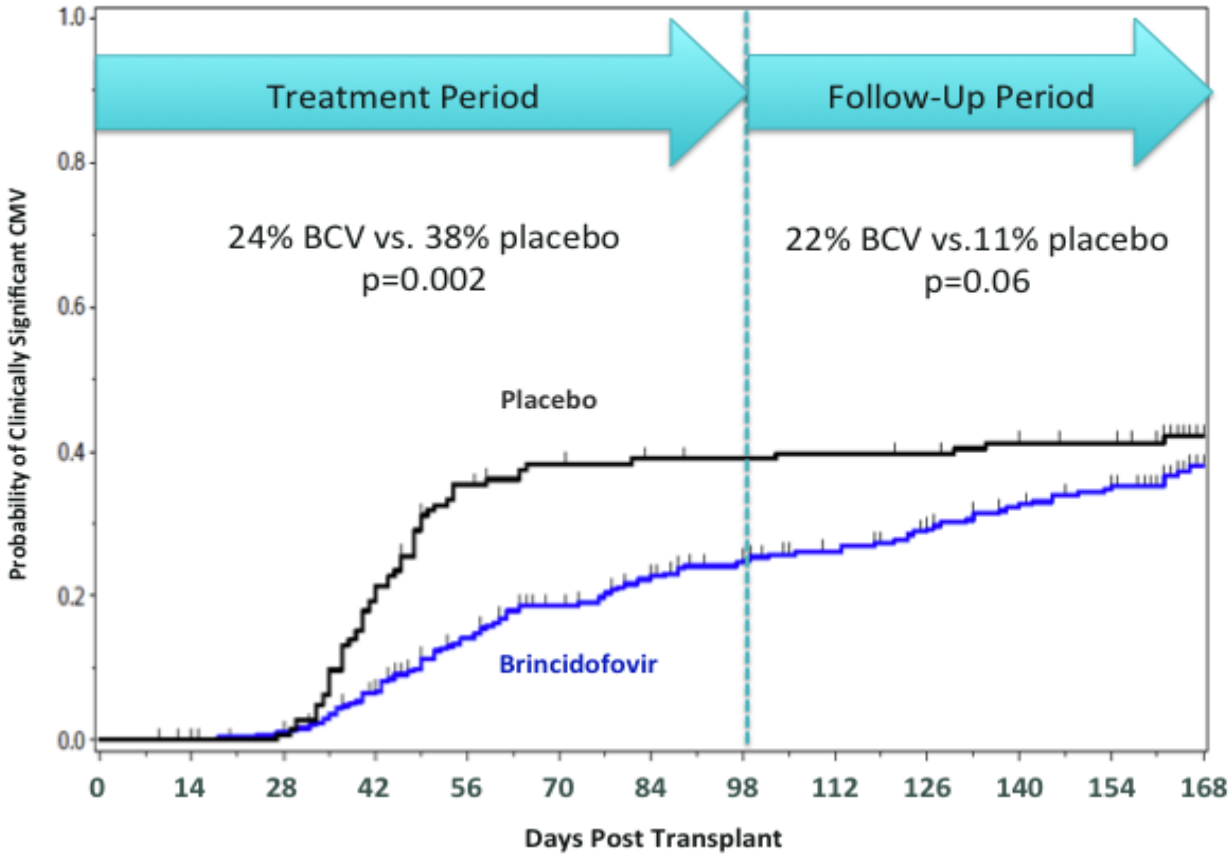
SUPPRESS for CMV Prevention: Brincidofovir Efficacy Was Confounded by GI Toxicity



- **Statistically-significant reduction in CMV reactivation** in high-risk allogeneic-HCT while on therapy
- **Higher rate of misdiagnosis of gut GVHD** due to drug-related diarrhea in subjects randomized to BCV
- Gut biopsies showed BCV-related injury is a histologic mimic of GVHD
- **8X higher exposure to steroids** in subjects on BCV
- **Increased use of biologics** and other immunosuppressants in subjects on BCV increased risk of late CMV and other opportunistic infections

Marty FM, et al. Biol Blood Marrow Transplantation (BBMT), February 2016

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INTRAVENOUS BRINCIDOFOVIR

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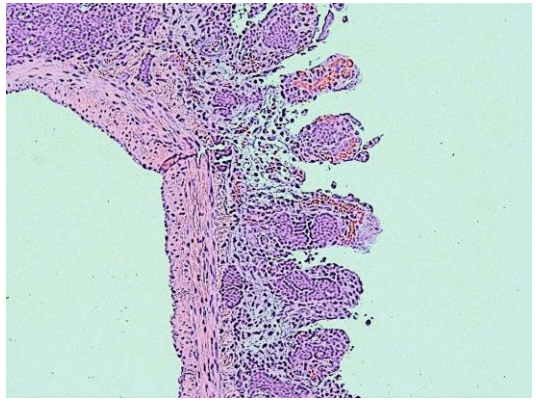
Preclinical Data Provide Confidence that IV BCV Will Address Oral BCV's GI Toxicity

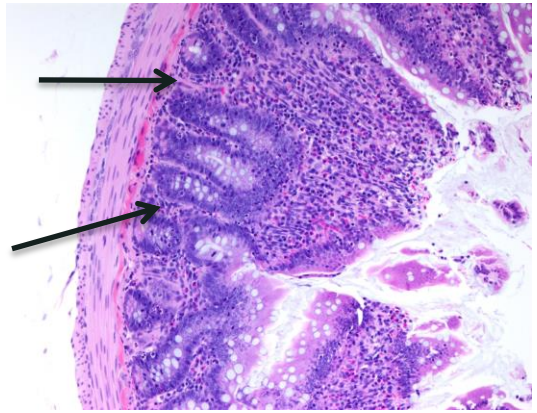
28-day rat studies of IV BCV:

- **No** animals had diarrhea
- **All** animals gained expected weight during study
- **No GI findings** in intestines at terminal necropsy
- **No in-life clinical findings** at highest dose: IV BCV 15 mg/kg
- **No** transaminase elevations



Rat intestine after oral BCV

- Significant loss of epithelium in intestinal villi



Rat intestine after IV BCV

- Minimal single-cell effects noted for IV BCV

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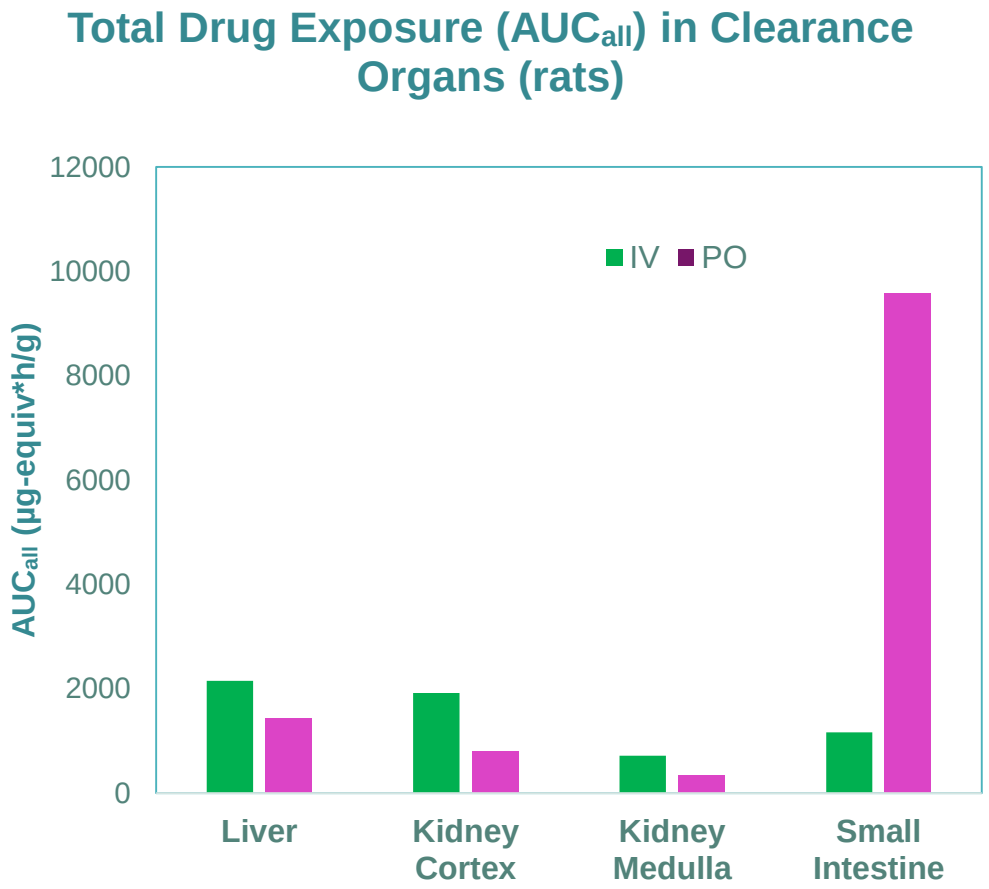
IV BCV Delivers Uniform Drug Exposure to Key Organs



- **IV BCV prevents "over-exposure" of gut**, *with significant improvement in GI tolerability*
- In rats, **IV BCV delivered comparable drug exposure to key organs**, *including the liver, kidney, and small intestine*
- **Oral BCV** resulted in significantly **higher exposures in the intestine** vs other organs, *providing explanation for GI toxicity*

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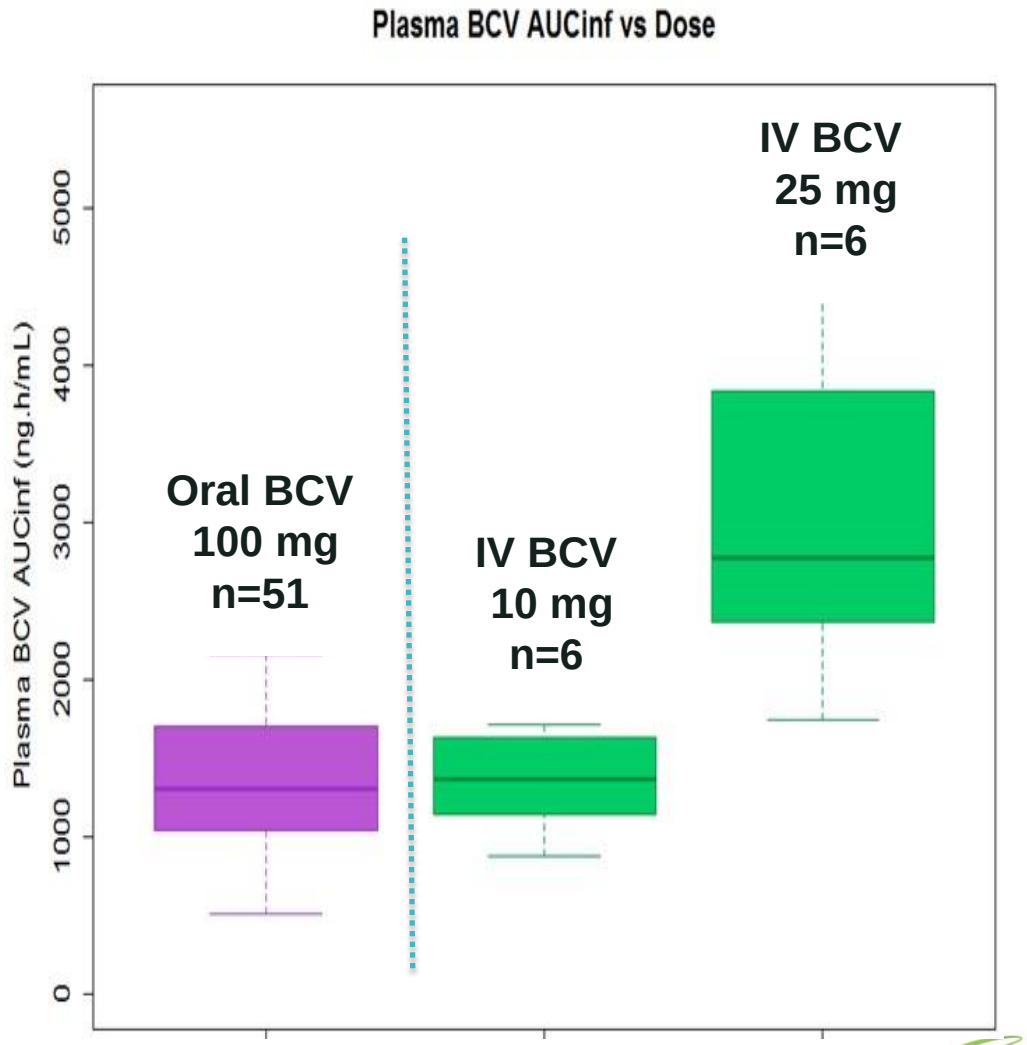
IV BCV Single Ascending Dose Study in Healthy Subjects: No GI Toxicity

- **IV BCV 10 mg and 25 mg** cohorts are complete
- **IV BCV 10 mg** provides similar exposure as oral BCV 100 mg
- Both IV BCV doses were **generally safe and well-tolerated:**
  - no drug-related AEs
  - no gastrointestinal AEs
  - no graded lab abnormalities
    - no hematologic toxicity
    - no kidney toxicity
- Single dose of **oral BCV** 100 mg and 200 mg resulted in ~5% diarrhea, 350 mg 20% diarrhea



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IV BCV Avoids GI Side Effects, Provides Opportunities for Treatment of All DNA Viruses

	Oral BCV	IV BCV
Broad Spectrum	✔	✔
NO heme toxicity	✔	✔
NO kidney toxicity	✔	✔
Prevention of CMV in HCT		✔
Treatment of CMV		✔
Prevention of AdV in HCT		✔
Treatment of AdV	✔	✔
Treatment of Smallpox	✔	✔
Treatment of BKV/JCV		✔

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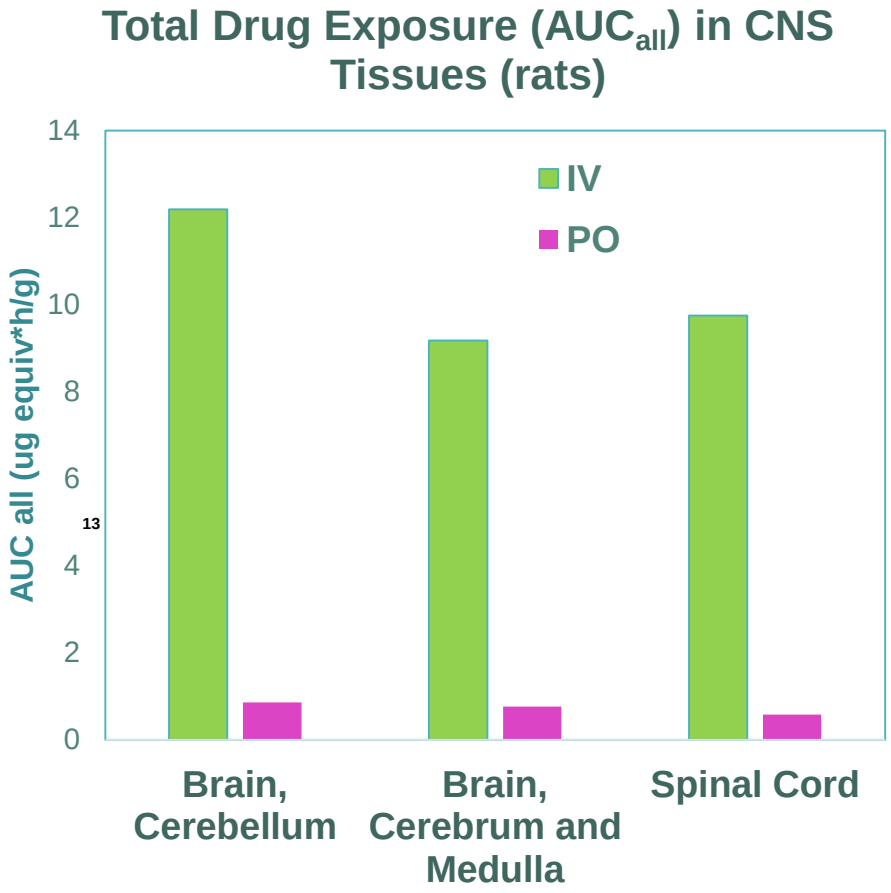
IV BCV Delivers More Drug to Difficult-to-reach Compartments Including the Brain



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- Higher CNS exposures with IV BCV could support testing for viral infections in the brain, e.g.:
  - Herpes encephalitis in newborns and adults
  - HHV-6 encephalitis
  - JC virus/PML in transplant recipients or patients with Multiple Sclerosis

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IV BCV Summary, Next Steps for IV and Oral BCV

IV BCV

- Single Ascending Dose Study in healthy subjects continues, with two additional cohorts scheduled
- Multiple-ascending dose study in healthy subjects to initiate in 1H 2017
- Phase 2 dose-ranging studies in CMV and BKV infections to follow
- Potential for Phase 3 study design discussions with regulators in 2017
- Opportunity to explore a broad range of additional indications, esp CNS infections

Oral BCV

- Short-term dosing for treatment of AdV and smallpox continue in development
- Small comparative study in pediatric HCT recipients at high risk of AdV disease to begin in 2H 2017, potential for approval based on positive data

Our ability to provide BCV in oral and IV formulations enables development across multiple indications and populations with the potential for best-in-class efficacy and safety

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SMALLPOX

ORAL BRINCIDOFOVIR FOR TREATMENT OF SMALLPOX

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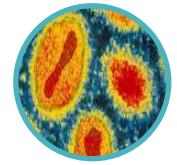
Oral BCV for Smallpox



Progress Toward Regulatory Approvals & Government Procurements

- Efficacy to be demonstrated via two animal model studies under FDA's Animal Rule
  - **Pivotal Rabbitpox Efficacy Study demonstrated 100% survival** in animals treated immediately with BCV at the time of confirmed infection
  - Mouse (ectromelia) efficacy study results expected in 2017
  - Human safety summary of 3 weeks' exposure to oral brincidofovir submitted to FDA, manuscript submitted to peer-reviewed journal
- FDA discussion to follow availability of mouse 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 European countries and non-government organizations currently being pursued

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ADENOVIRUS

ORAL BRINCIDOFOVIR FOR TREATMENT OF ADENOVIRUS

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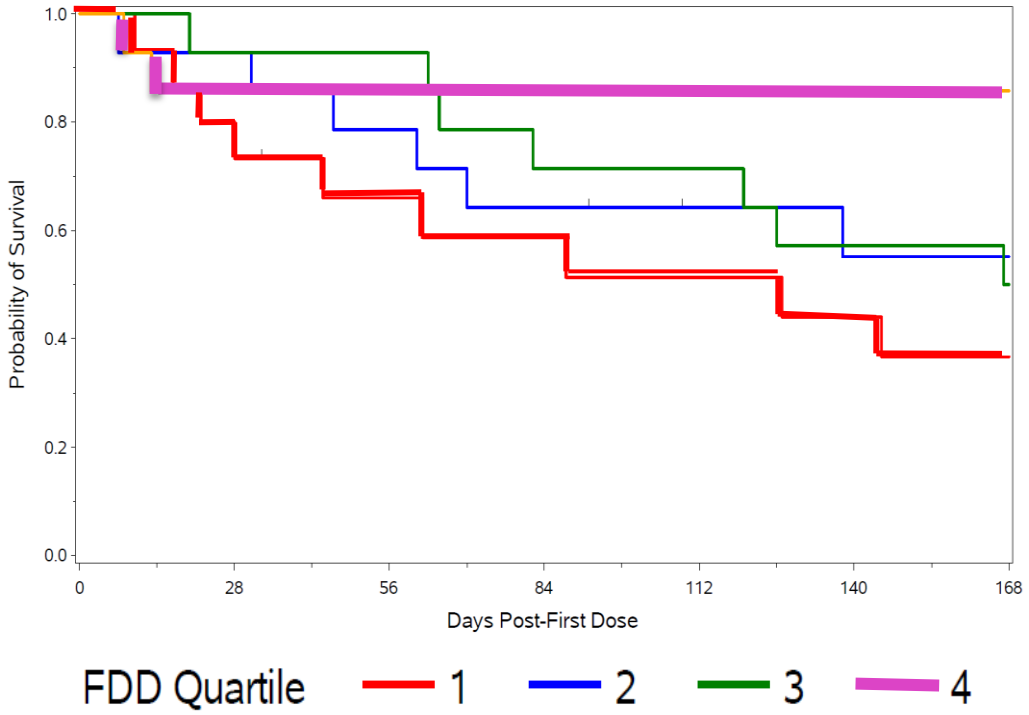
Adenovirus Rapid Virologic Response on Oral BCV Correlated With Improved Survival

Greatest Impact on Reduced Mortality Demonstrated in Final Quartile of Pediatric Patients in Advise

- Patients enrolled at initiation of trial had extensive cidofovir use, high AdV viral load, longest period from diagnosis to first BCV dose
- In the final quartile of enrollment, 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)
Mortality @ Wk 24	**67% (10 of 15)**	**14% (2 of 14)**

Grimley M, et al. ID week, October 2016

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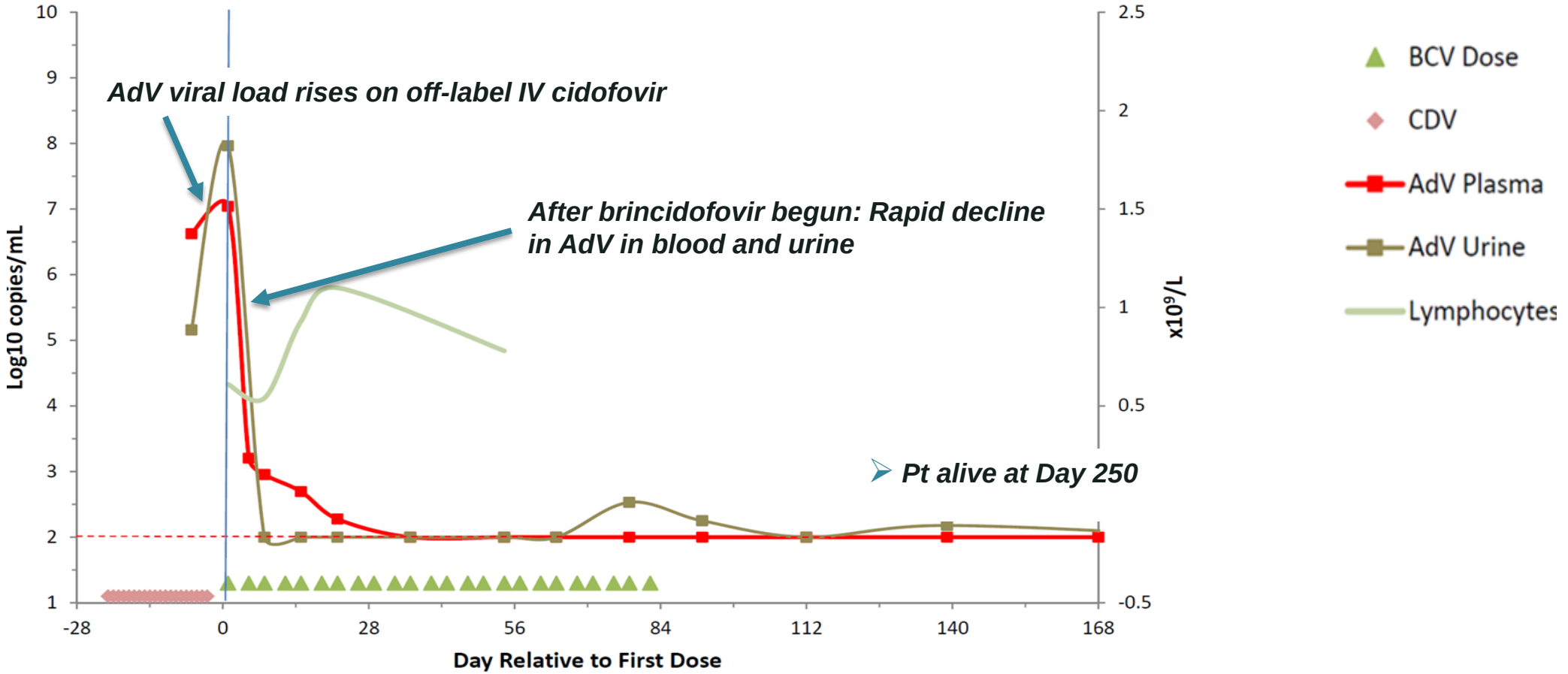
AdVise Case Study: BCV Delivered Robust Antiviral Response: Patient Cleared Infection & Survived

2 year-old cord blood transplant recipient with life-threatening AdV infection



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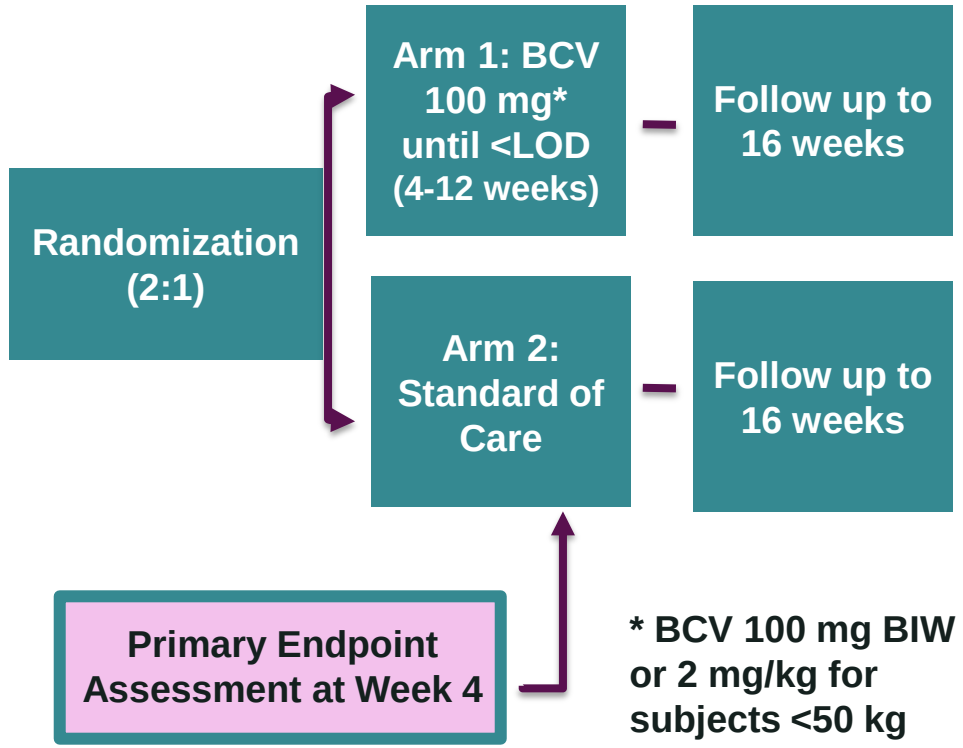
Oral BCV for Treatment of AdV in Pediatric HCT: Study 999

- **Small (n=~100), open label, comparative study of BCV vs. standard of care**
- Inclusion: pediatric HCT recipients with ≥ 1000 c/mL AdV DNA in plasma
- **Primary endpoint: proportion with undetectable plasma AdV at Week 4**
  - N=100 (2:1) for 75% vs. 40% response rate
  - Superiority of BCV in clearance of AdV from plasma could enable conditional EU Approval



- Supportive data are being compiled from EU transplant centers
  - **AdVance**: incidence and outcomes associated with the standard of care of AdV infections in EU allogeneic HCT recipients
  - Compilation of EU named patient experience (NPP) with BCV for treatment of AdV after HCT

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Demand for Brincidofovir Remains Strong

More than 900 patients with AdV have received brincidofovir since 2009 through Development and Expanded Access Programs

	Pediatrics		Adults		TOTAL
	Asymptomatic	Symptomatic[a]	Asymptomatic	Symptomatic[a]	All
EINDs/NPP	-	308	-	225	540[b]
Study 202	24	3	10	2	39
Study 304	51	79	23	48	201
Study 350	10	19	5	23	68[c]
Study 351	3	56	1	23	83[d]
Total	88	465	39	321	931

- ***More than 300 patients received oral BCV for life-threatening AdV in 2016***

a) Includes local and disseminated AdV disease; b) Includes 7 pts whose age is not known; assumes that EIND/NPP pts are symptomatic; Includes 9 patients who received open-label BCV; c) 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); d) Ongoing expanded access protocol, n=83 as of 31 Dec 2016

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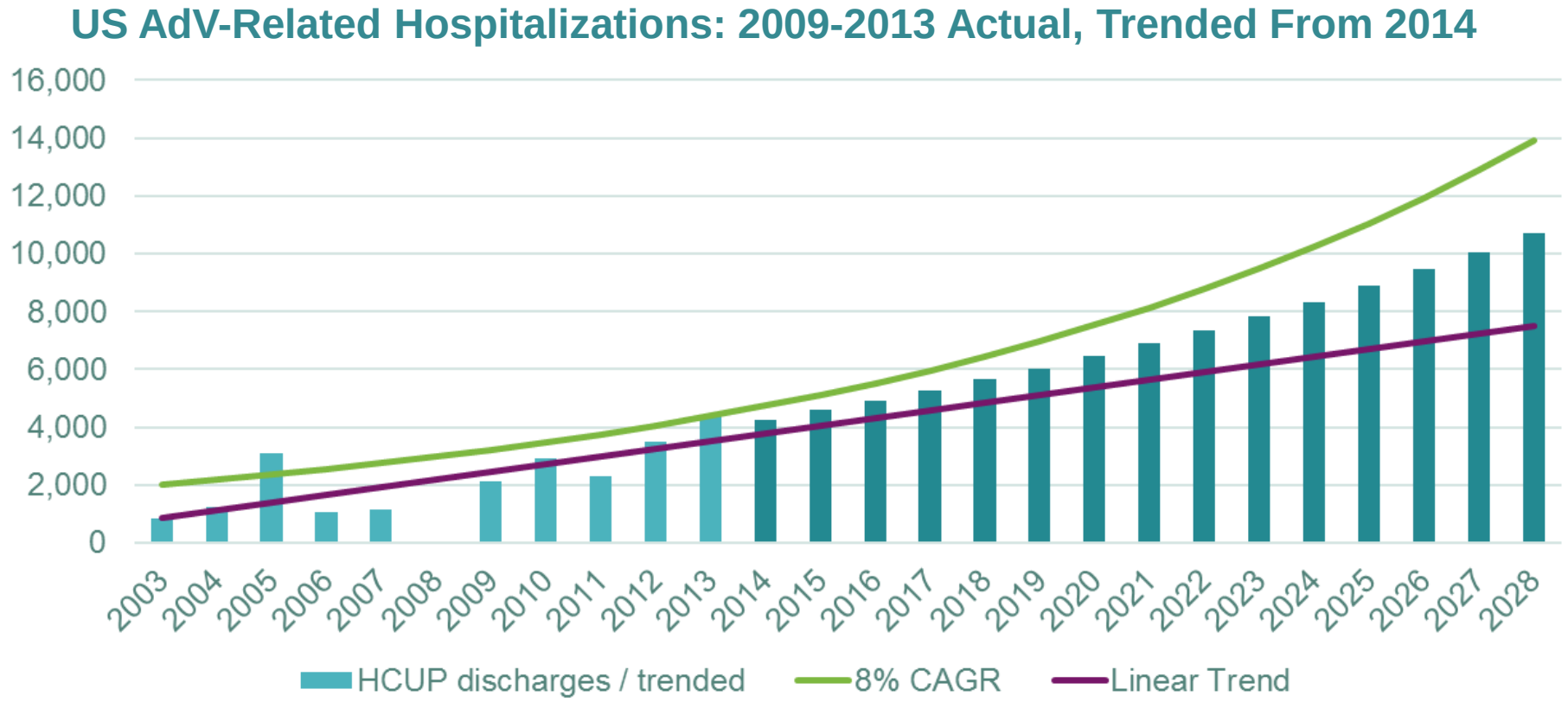
BCV: An Opportunity For Treatment of AdV Infection in 6000+ Hospitalizations Annually



- In addition to stem cell and organ transplant recipients, other at-risk populations include newborns with severe combined immunodeficiency (SCID), individuals on chemotherapy or biologics for autoimmune diseases, and other immune deficiencies

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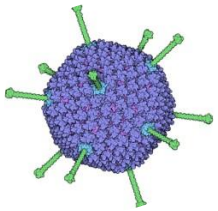
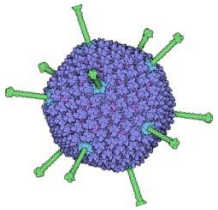
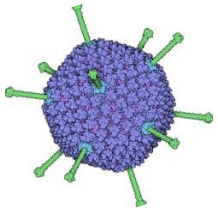
Oral BCV for AdV: Potential First EU Indication



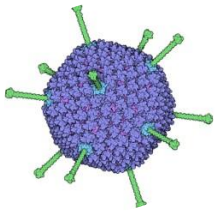
In stem cell transplant recipients, AdV viral load is often very high and is strongly associated with fatal outcomes[1,2]



Currently no approved therapy; significant limitations with current off-label use of cidofovir and decreasing immunosuppression



Early antiviral response in AdVise correlated with improved survival and suggests shorter treatment courses may be effective



Improved GI tolerability in pediatric patients

1. Bruno et al. BBMT 2003 2. Lion et al. Blood 2003

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NOROVIRUS

CMX521 FOR NOROVIRUS

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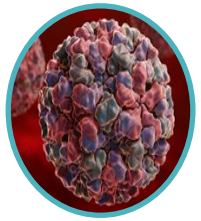
Norovirus: Treatment and Prevention of Infections Presents a Significant Opportunity



- Norovirus: RNA virus, previously referred to as Norwalk
- Noroviruses are the most common causes of epidemic acute gastroenteritis worldwide
- $60B each year in healthcare utilization and lost productivity
- >60% of norovirus outbreaks in the US are in healthcare facilities
- Significant unmet need in immunocompromised population
  - Immunosuppressive therapy is a risk factor for chronic norovirus
  - 17-18% of HCT & SOT recipients experience chronic symptoms of norovirus lasting weeks to years
- There are no approved drugs or vaccines for the treatment and/or prevention of norovirus

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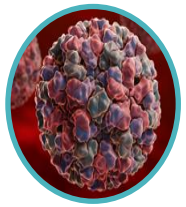
Candidate for Norovirus: CMX521



- CMX521: nucleoside that targets virus RNA polymerase, enabling broad activity against diverse (likely all) wild-type strains
- High barrier to resistance *in vitro,* with >50 passages required to confer any mutations
- Proof-of-concept established in mouse model with oral delivery
- Toxicology studies in mouse, rat and dog suggest a very favorable safety profile
- IND submission and FTIH on track for 2017

	EC50 (µM)	CC50 (µM)	SI
CMX521	2.1 (n=33)	114	54

Roos-Weil et al, Transplantation 2011

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Chimerix Pipeline

	Program	Discovery	Pre-clinical	Phase 1	Phase 2	Phase 3	Anticipated Approval
Oral BCV	**AdV Pediatric Treatment**	Study 999 in EU (+/- US) to start in 2H 2017					**2020**
	Smallpox	Data from second animal study in 2017 †					**2019**
IV BCV	**Multiviral Prevention**	Data from MAD in 2017†			Ph 2/3 in Peds HCT		**2021**
	BKV Treatment	Initiate Phase 2b late 2017			Ph 2/3 in Kidney Tx		**2023**
	CMV Treatment	Initiate Phase 2b late 2017					
CMX521	**Norovirus**	FTIH start 2H 2017			POC Challenge Study		**2022**
CMX157	**HBV Treatment**	*Licensed to ContraVir					
Business Development		Ongoing Diligence					

† Anticipated
* Per ContraVir's website

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Chimerix: 2017 Potential Catalysts

1H 2017

- Oral BCV: Complete second animal model efficacy for smallpox infection to complete requirements under FDA's Animal Rule
- IV BCV: Present final IV BCV clinical data from single ascending dose study, initiate multiple dose study
- CMX521 for Norovirus: IND-enabling studies

2H 2017

- IV BCV: multiple ascending dose clinical data
- Oral BCV: Initiate Study 999, small comparative AdV trial in pediatric HCT recipients for potential approval
- Discuss development paths for prevention and treatment of DNA viral infections with FDA and EMA
- CMX521: Submit IND and initiate first clinical studies

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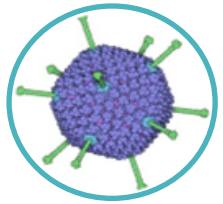
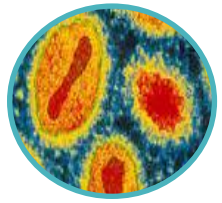
Our Mission Reflects Our Dedication to Patients

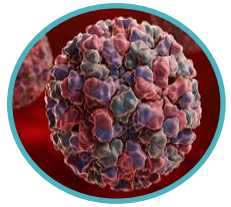
Dedicated to discovering and developing and commercializing medicines to improve outcomes for immunocompromised patients



Advance brincidofovir for the prevention and treatment of DNA virus infections in hematopoietic cell transplant (HCT) and solid organ transplant (SOT) recipients



Progress brincidofovir as a medical countermeasure for the treatment of smallpox



Develop CMX521 for the prevention and treatment of norovirus

$288 million in capital is sufficient to fund operations through anticipated catalysts in 2017

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