



BCX4430

Novel Broad Spectrum Antiviral

June 2016

BioCryst Pharmaceuticals was founded 1986

Headquarters Office Research Triangle Park, NC

- Clinical Development
- Medical Research
- Toxicology
- Regulatory Affairs
- Safety
- Quality Assurance
- Commercial planning and business operations
- General and administrative functions

Discovery Labs & CMC Birmingham, AL

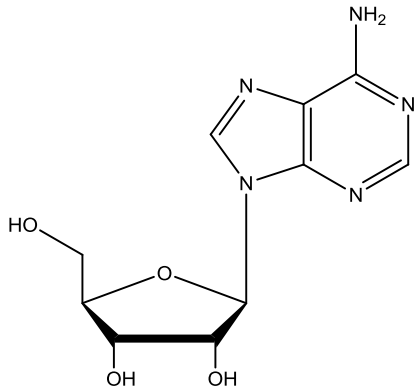
- Discovery
 - Medicinal chemistry
 - Structural Biology
 - Research biology
- Pharmaceutical development
 - Chemical development
 - Product development
 - Methods, stability, QC
 - Regulatory CMC
- GLP and GMP laboratories
- Small animal facilities

A maturing & growing pipeline

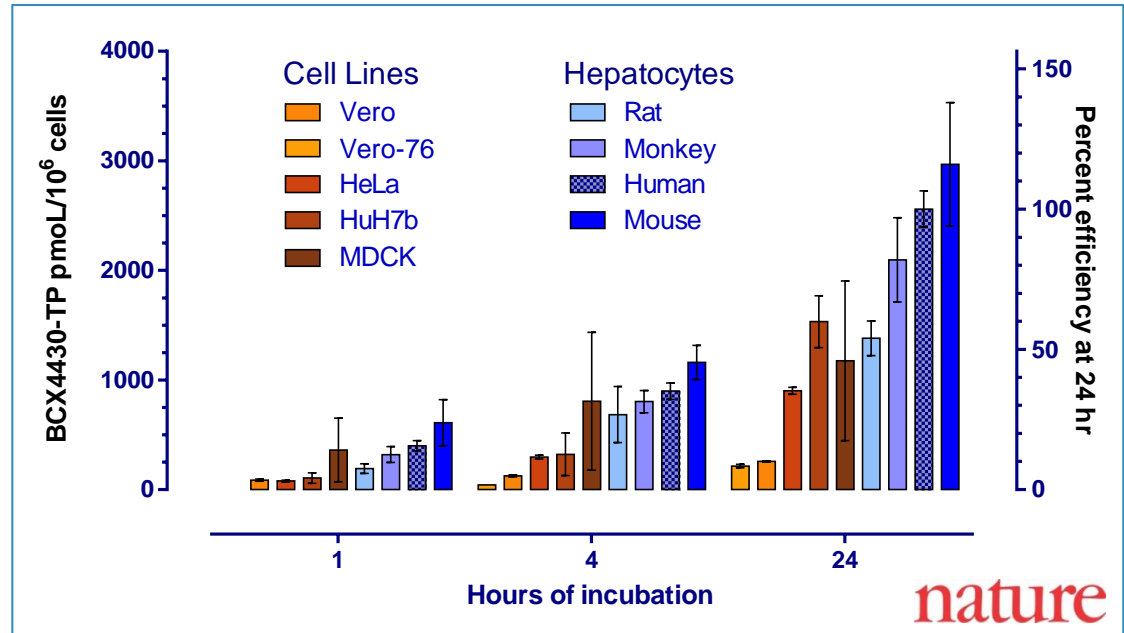
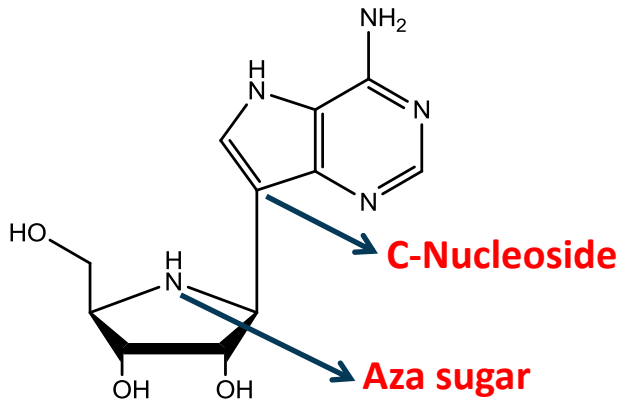
	Lead optimization	Pre-clinical	Ph 1	Ph 2	Ph 3	Filed	Approved
RARE DISEASE PROGRAMS							
Avoralstat liquid gel caps	→				Discontinued		
Avoralstat solid dosage (HAE)	→						
BCX7353 (HAE)	→						
Next generation kallikrein inhibitors	→						
Rare disease 1	→						
Rare disease 2	→						
ANTIVIRAL PROGRAMS							
RAPIVAB® (peramivir inj.)	→						
BCX4430 (broad spectrum antiviral)	→						

BCX4430 is an adenosine nucleoside analog broad-spectrum antiviral drug that is metabolized to a triphosphate nucleotide by mammalian cells

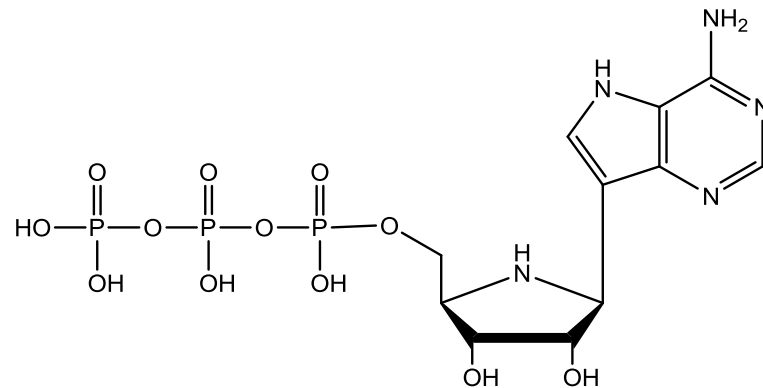
Adenosine



BCX4430



BCX4430-triphosphate (BCX6870)

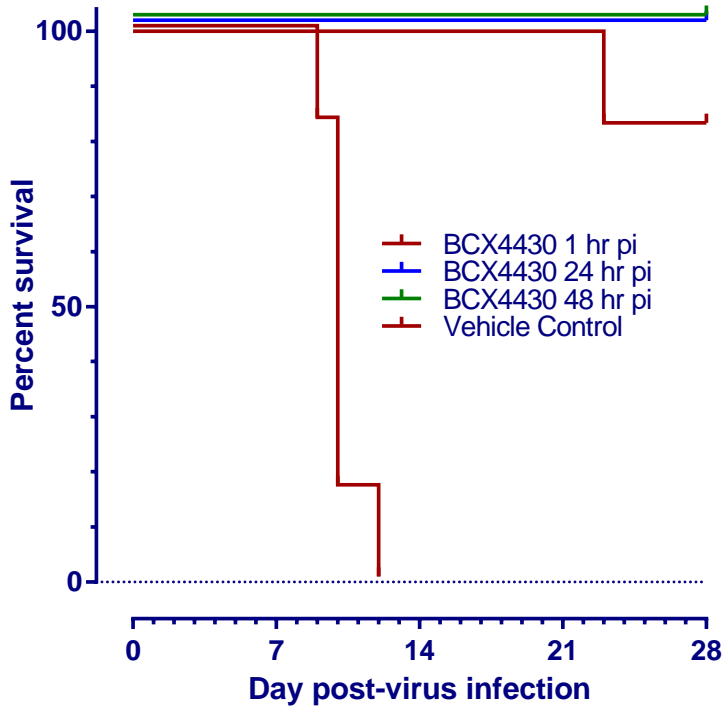


Overview of the maturation of BCX4430 development program

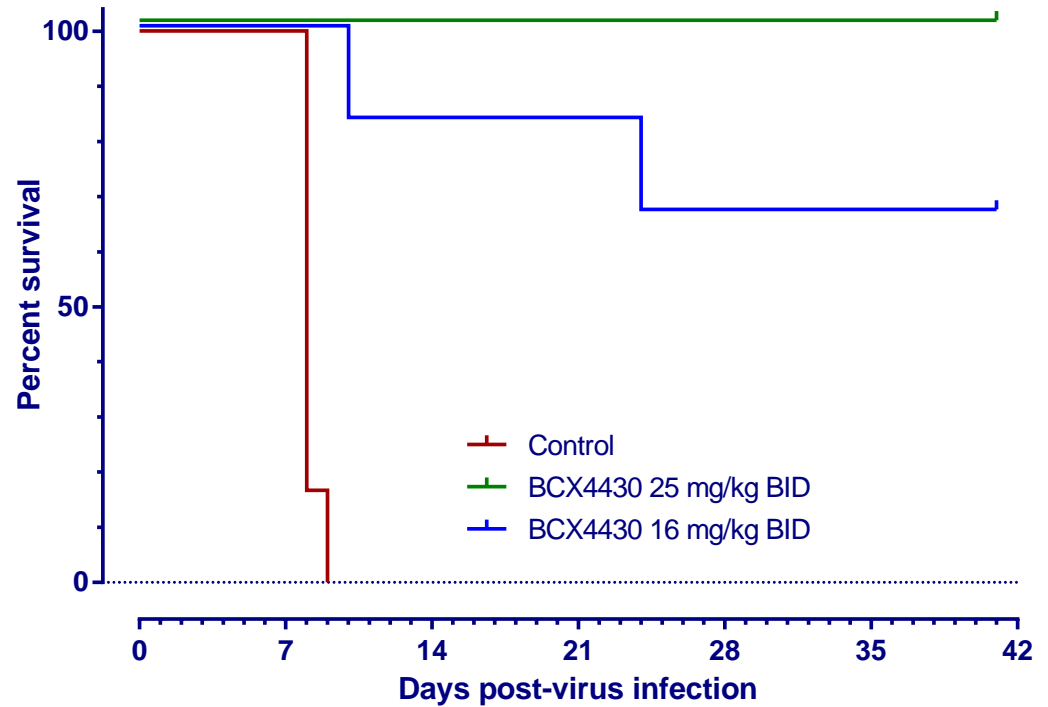
Activity	Timing
Phase 1 safety clinical study - IM	Dosing completed for Clinical Phase 1 study (SAD/MAD) Generally safe and well tolerated administered by i.m. injection
NHP efficacy studies	Completed two studies in Ebola and one study in Marburg Survival benefit demonstrated in both viruses
GMP drug supply	Initial Phase 1 supply delivered in November 2014 Additional GMP drug supply manufacturing at KG scale in process
IV program	Nonclinical IND enabling studies in progress

This project has been funded in whole or in part with Federal funds under NIH contract #HHSN272201300017C and BARDA contract #HHSO100201500007C

BCX4430 has shown improved survival in NHP experimental models of both Ebola and Marburg virus infections



Marburg Virus cynomolgus macaque study



Ebola Virus Rhesus macaque study

Left panel redrawn from Warren, T. K., J. Wells, R. G. Panchal, K. S. Stuthman, et al (2014). "Protection against filovirus diseases by a novel broad-spectrum nucleoside analogue BCX4430." *Nature* <http://dx.doi.org/10.1038/nature13027>

Right panel, BioCryst data on file. Study conducted at USAMRIID and funded by NIH/NIAID under contract HHSN272201300017C

Manufacturing development at kg scale is well underway

Drug Substance

kg scale GMP manufacturing 

Process Improvement and scale-up 

100s g GMP 

100s g non GMP 

Drug Product

Process Refinement

IV from IM PoP 

Phase 1 IM CTM 

- Drug substance
 - GMP manufacturing process refinement and scale-up underway in the US
 - Acceptable stability through 18 months
- Drug Product GMP manufacturing in place in the US
 - GMP drug product has acceptable stability through 12 months

Near-term focus of the funded development program

Area	Activities
Nonclinical	<ul style="list-style-type: none">• Define PK of BCX4430 in infected and healthy NHPs• Complete remaining NHP studies needed for interpretation of human exposures• Complete IV toxicology studies to support an IV IND filing
Clinical	<ul style="list-style-type: none">• Complete analysis of the IM BCX4430• Initiate Phase 1 IV clinical study
Manufacturing	<ul style="list-style-type: none">• Continue process development and formulation improvements• Further manufacturing and scale-up of kg scale
Regulatory	<ul style="list-style-type: none">• FDA interactions regarding a non-clinical development program to support an NDA for BCX4430 for the treatment of EBOV under the “Animal Rule”