U.S. Department of Health and Human Services

ASPR
ADMINISTRATION FOR STRATEGIC PREPAREDNESS AND RESPONSE

BARDA
BIOMEDICAL ADVANCED RESEARCH AND DEVELOPMENT AUTHORITY

Potential mpox Therapeutics

Karen Martins, Ph.D.
Program Director, CBRN Antivirals & Antitoxins Program
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Potential Products for Mpox Treatment

- IVIG
- Cidofovir
- mAb products
  - Biofactura – BFI-753*
  - JPEO-CBRND/Accelerated Antibodies – JUST Evotec mAb program
- TPOXX (Tecovirimat)*
- Tembexa (Brincidofovir)*

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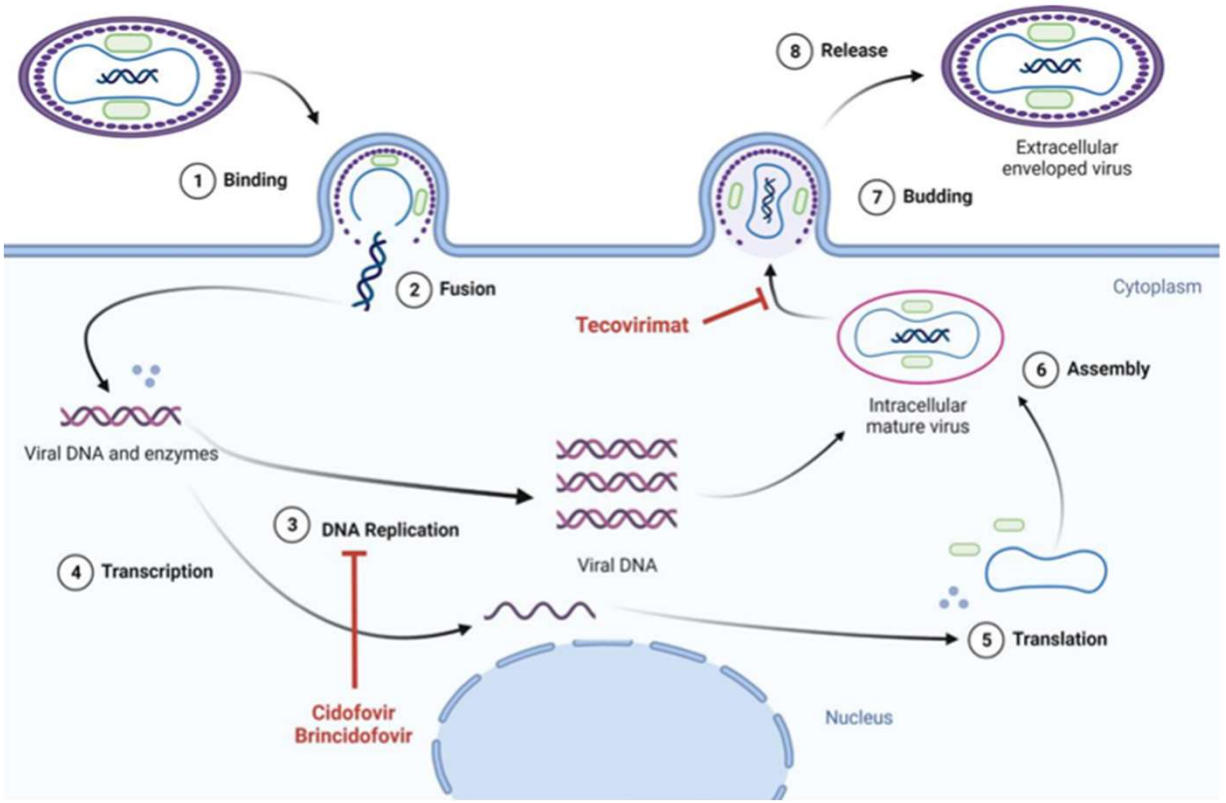
Tecovirimat (TPOXX)

- **Sponsor**: Siga Technologies
- **Regulatory status**: Approved in EU, UK for multiple orthopoxviruses; U.S. for smallpox
- **Approved for smallpox disease by U.S. FDA**
  - Capsule formulation (2018; adults and pediatric patients >13 kg) ; 14-day treatment course (Avg 600 mg/day)
    - To be taken after moderate or high fat meal
  - IV formulation (2022; adults and pediatric patients >3 kg) ; 6-hour infusion
  - Pediatric formulation in development
- **Availability**: Available from U.S. Strategic National Stockpile (SNS) and distributed internationally by Siga
- Strong safety profile; early treatment anticipated to be more effective than in severe disease based on mechanism of action (MOA) and mpox nonhuman primate studies
- **Evidence for mpox efficacy in non-clinical models – used as surrogate from smallpox indication**
  - Cyno macaque study with IV mpox (Clade 1) demonstrated 83% survival when administered 4 or 5 day pi (approx. time of lesion presentation), with improved survival with earlier treatment
  - Targets VP37, which gene (F13L) is highly conserved among orthopoxviruses; clade differences are not anticipated to impact efficacy
  - MOA is to prevent virus spreading from cell to cell
    - MOA should be considered in clinical trial development as impact is anticipated to be on development of new lesions and spread of virus, not in resolution of existing lesions
  - Currently included in multiple clinical trials evaluating efficacy in mpox infection

Brincidofovir (Tembexa)

- **Manufacturer**: Emergent
- **Regulatory status**: Approved in U.S. for smallpox
- **Licensed for smallpox disease by U.S. FDA**
  - Tablet and suspension formulations (adults, pediatric, and neonates)
  - Black box label: Use for recommended dosing window
  - Hepatic laboratory testing recommended before and during treatment; not recommended for pregnant women; may impact fertility; potential carcinogen
  - Should be taken on an empty stomach or after low fat meal
- **Availability**: Available from U.S. SNS; used for mpox under single patient eIND (~14 case reports)
- **Evidence for mpox efficacy in nonclinical models**
  - Not evaluated in animal models for mpox due to metabolism of product in NHP; licensed for smallpox based on mouse and rabbit orthopoxvirus models
  - MOA: nucleotide analog; DNA polymerase inhibitor
    - Anticipated efficacy across orthopoxviruses
    - Being investigated in clinical trials for adenovirus infection in immunocompromised patients as well as CMV and BK virus
  - EC50 against mpox: 0.07-1.2 uM, including Clade 1 and 2 isolates



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