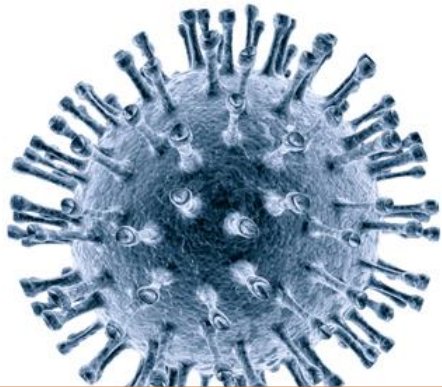


Unmet Need Many antiviral drugs have poor cell penetration, which limits their ability to reach their target. These therapeutics cannot be given orally and must be delivered at high concentrations. This results in potential toxicity issues that limit their adoption.



Solution TSRL and the University of Southern California are developing orally available prodrugs of cidofovir with substantially increased cell-based potency against ganciclovir resistant human cytomegalovirus, adenovirus, herpes simplex viruses, polyoma viruses and smallpox.

Supported IP Our lead series is covered by three jointly-owned patents and one patent-pending with IP coverage past 2030. Additional applications are being filed.

Advantages

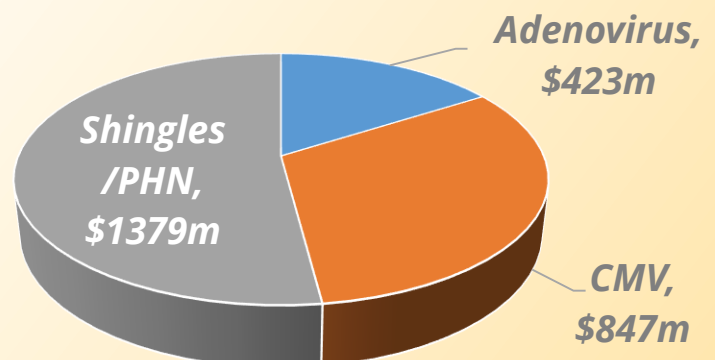
- Higher potency than parent
- Better safety profile than parent
- Favorable tissue distribution
- Efficacy against resistant strains

Funding to Date

- Two Phase II SBIRs
- Three Phase I SBIRs
- Private Investment

Market Potential

- Total global market of ~\$2.6b for shingles, CMV, and adenovirus
- Orphan designation possible for CMV and adenovirus





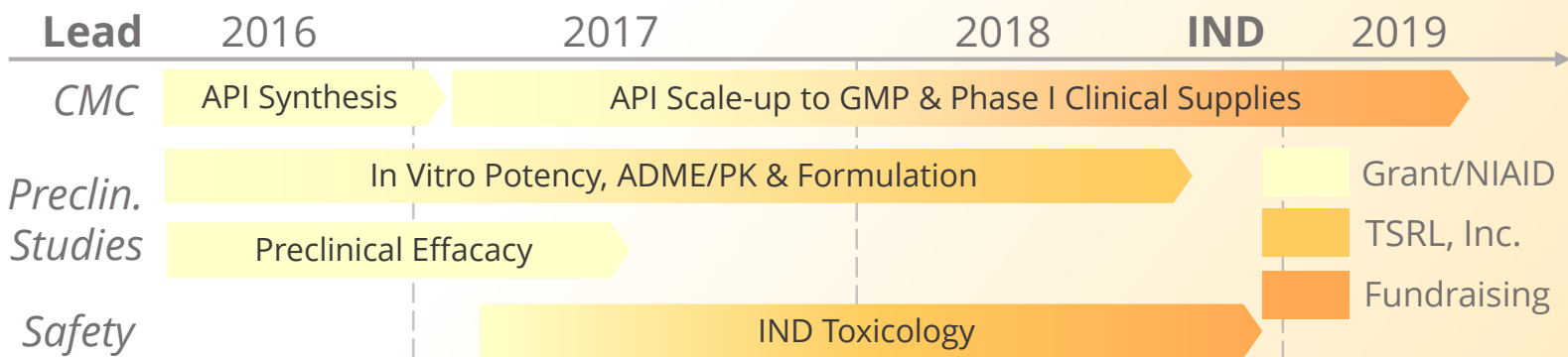
Spotlight: Potent DNA Antivirals

EC50 Broad-Spectrum Activity (μM)

Compound	HSV-2	hCMV	VZV	VACV	CPXV	Adv
HPMPA	59.2	16.7	5.34	50.5	54.0	15.7
HPMPA-C16	0.46	0.008	0.005	0.068	0.05	0.024
HPMPC (Cidofovir)	31.6	0.60	0.52	22.5	23.9	2.98
HPMPC-C16 (USC-505)	0.2	0.001	0.004	0.153	0.257	0.03

Plates were seeded with primary HFF cells; in vivo safety & efficacy data available

Timeline & Next Steps



About the Innovators

Elke Lipka, PhD, MBA, President - 20 years of drug development experience and management of business operations and strategic partnerships.

Gordon Amidon, PhD, Chairman & CSO - Internationally recognized expert in the field of solubility, transport phenomena, prodrugs, and drug absorption.

Charles McKenna, PhD, Prof. of Chemistry, USC - NIH fellow and expert in the design and synthesis of potential agents to inhibit HIV, HPV & other viruses.

About Us- TSRL, Inc. is a preclinical accelerator based in Ann Arbor, Michigan. Our mission to advance promising compounds for treating severe and multi-drug resistant infections.

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