MedImmune

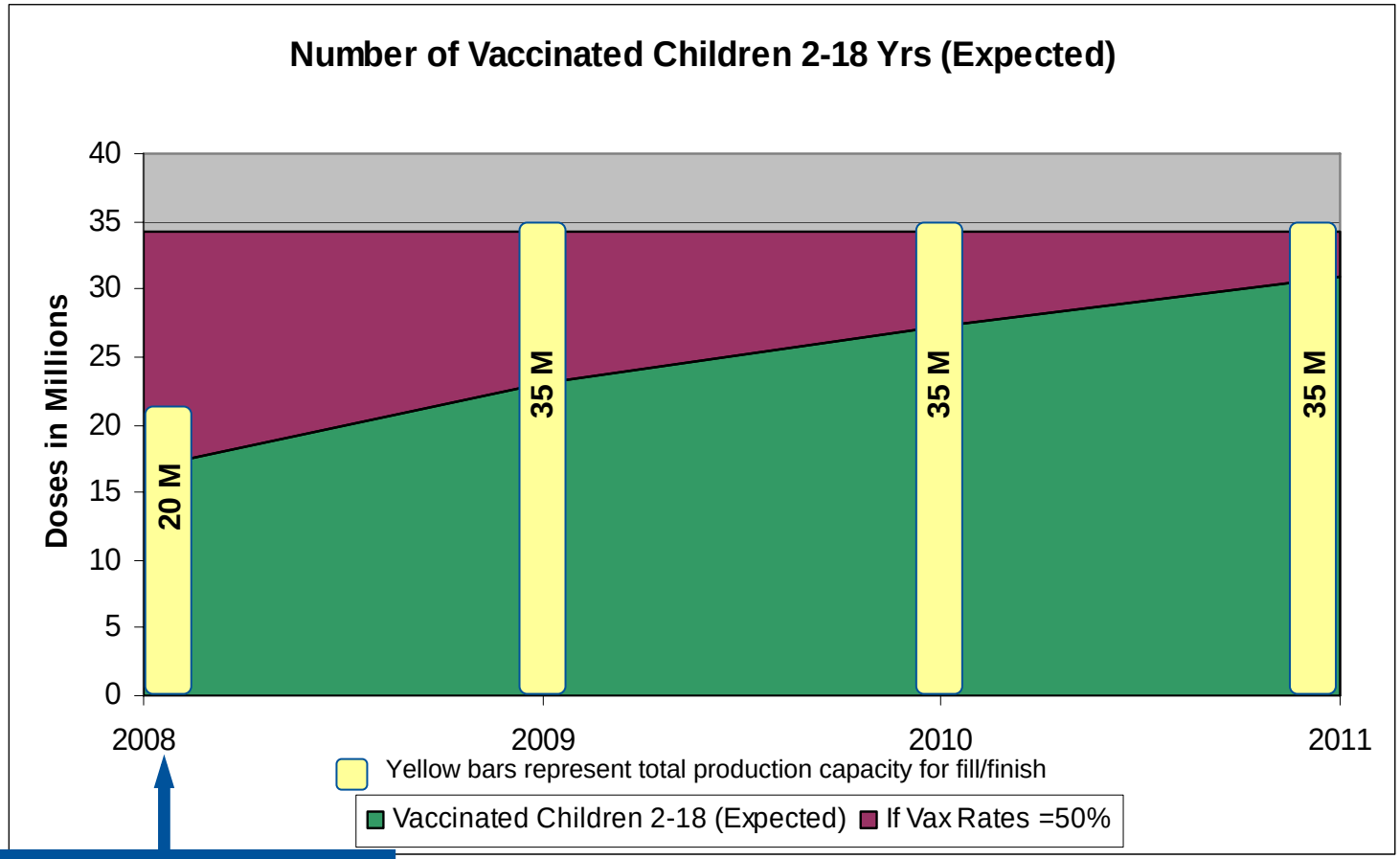
Influenza Vaccine Summit

FluMist® (Influenza Virus Vaccine Live, Intranasal) Manufacturing Update

May 12, 2008

Atlanta, GA

MedImmune Prepared to Support Implementation of Recommendation for School-Aged Children



12M Doses Planned

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2008-09 Season

- Planned supply: 12 million doses
- August shipping is planned
  - Vaccine availability in August would allow healthcare providers to reach an additional 10.7M children when these children are already in the doctor's office*
  - Pediatricians begin to vaccinate when vaccine becomes available*
  - Early vaccination provides protection throughout entire season*
- Distribution
  - McKesson Medical-Surgical
  - Besse/ASD
- Three new strains in vaccine
  - Production is going well
  - All strains produced using reverse genetics

*Studies presented at Pediatric Academic Socieities Meeting, May 2008

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Production of Vaccine Seed Strains Using Reverse Genetics

Reverse genetics is a method by which viruses such as influenza can be generated from segments of DNA.

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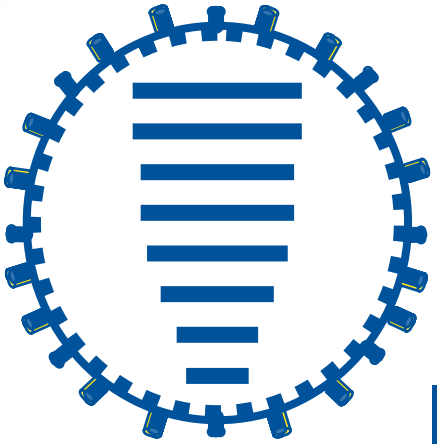
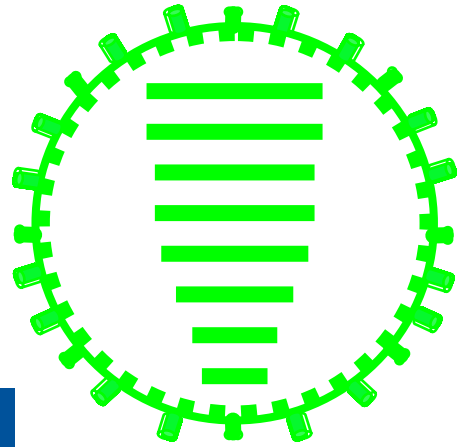
Classical Reassortment

Master Donor Virus



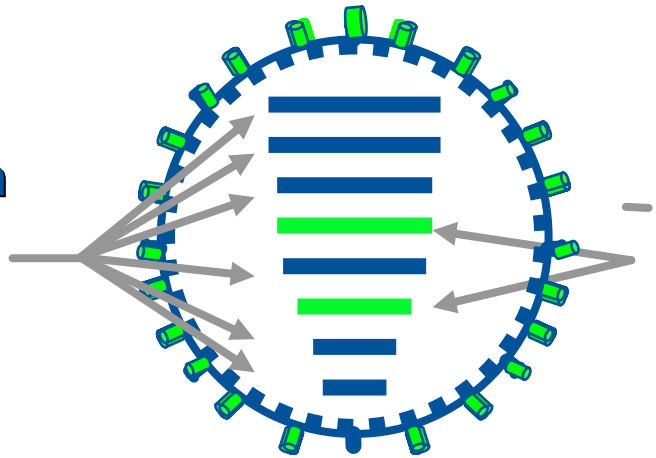
New Wild Type Strain



Co-infect cells

256 possible combinations

Six genes from MDV for *ca,ts,att*



Hemagglutinin and neuraminidase genes from wild type for immunity

6:2 Vaccine Seed Strain

Reverse Genetics

Master Donor Virus Plasmids

PB1 NP PA

PB2 M NS

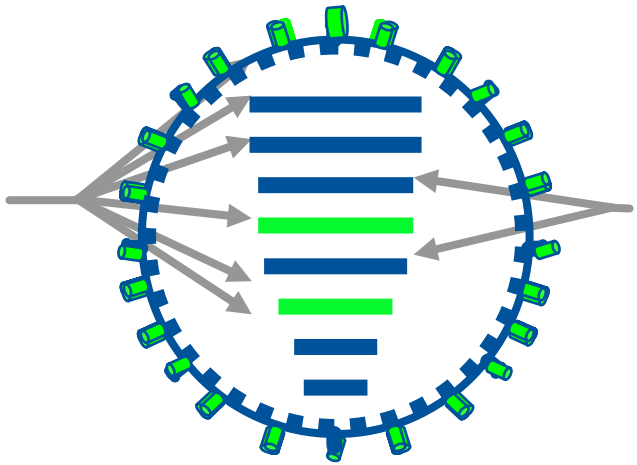
Electroporate Vero cells

New Wild Type Strain Plasmids

HA NA

Only one possible combination

Six genes from MDV for *ca,ts,att*



Hemagglutinin and neuraminidase genes from wild type for immunity

6:2 Vaccine Seed Strain

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Advantages of Reverse Genetics

- No genetic modifications introduced
  - Same vaccine seeds as classical reassortment method
  - Genome sequence equivalent to classical reassortant
- Timing of reverse genetics is predictable
  - Earlier start of manufacturing
  - Acceleration of vaccine release to the marketplace
- Further advantages
  - Removes risk of exposure to adventitious agents in the wild type isolate
  - Fewer random mutations observed
  - Identical bulk production process

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Candidate Vaccine Strains Made Using Reverse Genetics

Season	H1N1	H3N2	B
2007-08	Solomon Islands/3/07[1,2]	Wisconsin/67/05[1,2]	Malaysia/2506/04[1,2]
2008-09	Brisbane/59/07[1]	Brisbane/10/07[1]	Florida/4/06[1,2]
	New York/8/07	Texas/37/07	Pennsylvania/7/07
	Hawaii/31/07	Nevada/5/07	
	Peru/1169/07 (cell)	Uruguay/716/07[2]	
	South Dakota/6/07[2]		

[1] **Prototype vaccine strains.**

[2] **Antigenically equivalent vaccine production strains.**

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Thank You!