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## The main research interests

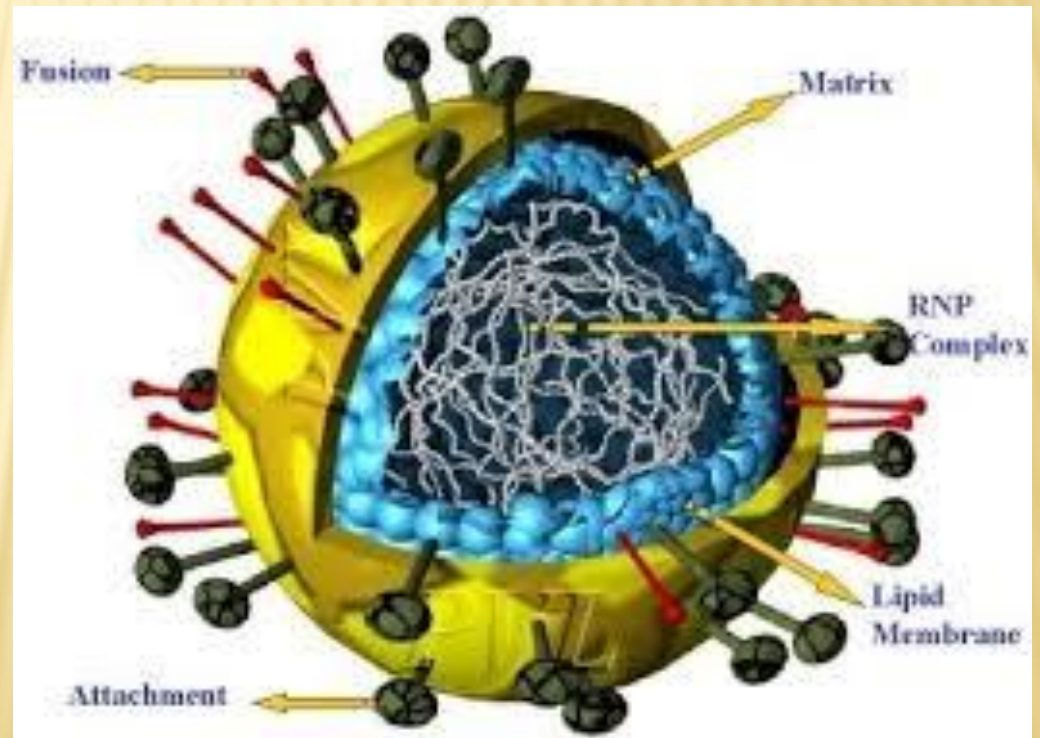
### Respiratory Viruses

Epidemiology

Basic research

Cell culture

Molecular Biology



## ***The research results have been presented at conferences***

Genetic diversity of Parainfluenza virus 1, 2 and 3, identified from samples taken at the University Hospital of São Paulo University, during 1995 to 2005.

Perini AP<sup>1</sup>, Sacramento PR<sup>1</sup>, Oliveira DBL<sup>2</sup>, Giglio A<sup>3</sup>, Vieira SE<sup>3</sup>, Tenório ECN<sup>1</sup>, Stewien KE<sup>2</sup>, Durigon EL<sup>2</sup>, Botosso VF<sup>1</sup>

Annual Meeting of Butantan Institute – Brazil - 2013

**STANDARDIZATION OF AVIDITY TEST FOR IGG ANTIBODIES ANTI-VIRAL PROTEIN VIRUS CAPSID EPSTEIN-BARR** "Perini, A.P.; Oliveira, A.N.; Barros, M.R.C.B.; Siciliano, S.; Grantao, C.F.H.

44<sup>o</sup> Congresso Brasileiro de Patologia Clinica – Medicina Laboratoria I- Rio de Janeiro – RJ (Set/2010).

**"PREVALENCE OF HERPES SIMPLEX TYPE ANTICORPOSANTI-1 (HSV-1) and 2 (HSV-2) IN MEN AND WOMEN IN AGE DIFERENTESGRUPOS"**

Granato, C.F.H.; Perini, A.P.; Barros, M.R.; Benfica, D.R.; Leser, P.G.; Moura, M.E.G.; Snege, M.

37<sup>o</sup> Congresso Brasileiro de Patologia Clinica – Medicina Laboratoria I- Rio de Janeiro – RJ (Set/2003).

XIII Encontro Científico Fleury – São Paulo

Dezembro/2003

**"Prevalence in São Paulo of Respiratory Viruses in children attending outpatient, inpatient and ICU, during the years 2000-2002".**

Benfica, D.; Perini, A.P.; Araújo, P.; Leser, P.G.; Granato, C.

XII Encontro Científico Fleury – São Paulo

Agosto/2002

37<sup>o</sup> Congresso Brasileiro de Patologia Clinica – Medicina Laboratoria I- São Paulo – SP (Set/2002).



**"Prevalence of serotypes of coxsackievirus B (1-6) in clinical samples sent to Fleury Diagnostic Center Medica"**

Araújo, P; Perini A. P.; Benfica, D.; Leser, P.G.; Granato, C.

XII Encontro Científico Fleury – São Paulo

Agosto/2002

37º Congresso Brasileiro de Patologia Clínica – Medicina Laboratorial – São Paulo – SP (Set/2002).

**"COMPARISON AMONG DIFFERENT CELL LINES (HELA-I, HEP-2, NCI-H292) FOR ISOLATION OF HRSV IN CLINICAL SAMPLES"**

Perini, A. P.; Barbosa, M. L.; Takahashi, V. N. van O.; Kuroda, C. K.; Moraes, C. T. P.; Gomes, M. C. S.; Vieira, S. E.; Gilio, A. E.; Lopes, J. M.; Stewien, K. E. & Durigon, E. L.

11th National Meeting of Virology and 3rd Mercosul Meeting of Virology – São Lourenço - MG  
Novembro de 2000

**"OCURRENCE OF RESPIRATORY SYNCYTIAL VIRUS GROUPS A AND B IN SÃO PAULO CITY, BRAZIL. 1998/1999"**

Takahashi, V. N. van O.; Botosso, V. F.; Perini, A. P.; Peret, T. C. T.; Vieira, S. E.; Gilio, A. E.; Ejzemberg, B.; Stewien, K. E. & Durigon, E. L.

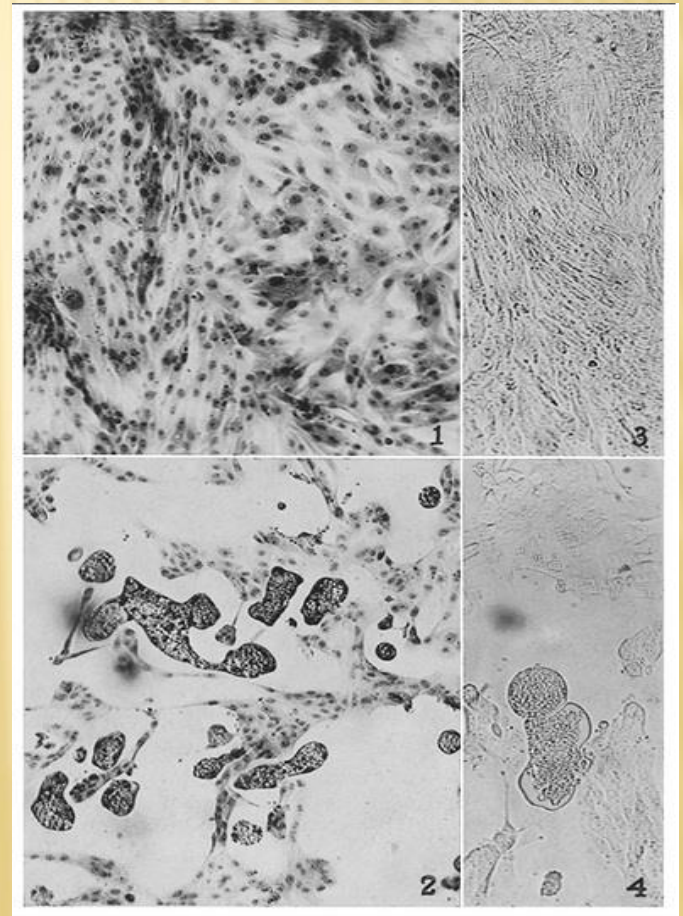
11th National Meeting of Virology and 3rd Mercosul Meeting of Virology – São Lourenço - MG  
Novembro de 2000

Genetic diversity of Parainfluenza Virus 1, 2 and 3 identified in samples collected at the University Hospital of the University of São Paulo, during the years 1995-2005.

### *Importance*

Second leading cause of bronchiolitis and pneumonia in infants during the first year of life

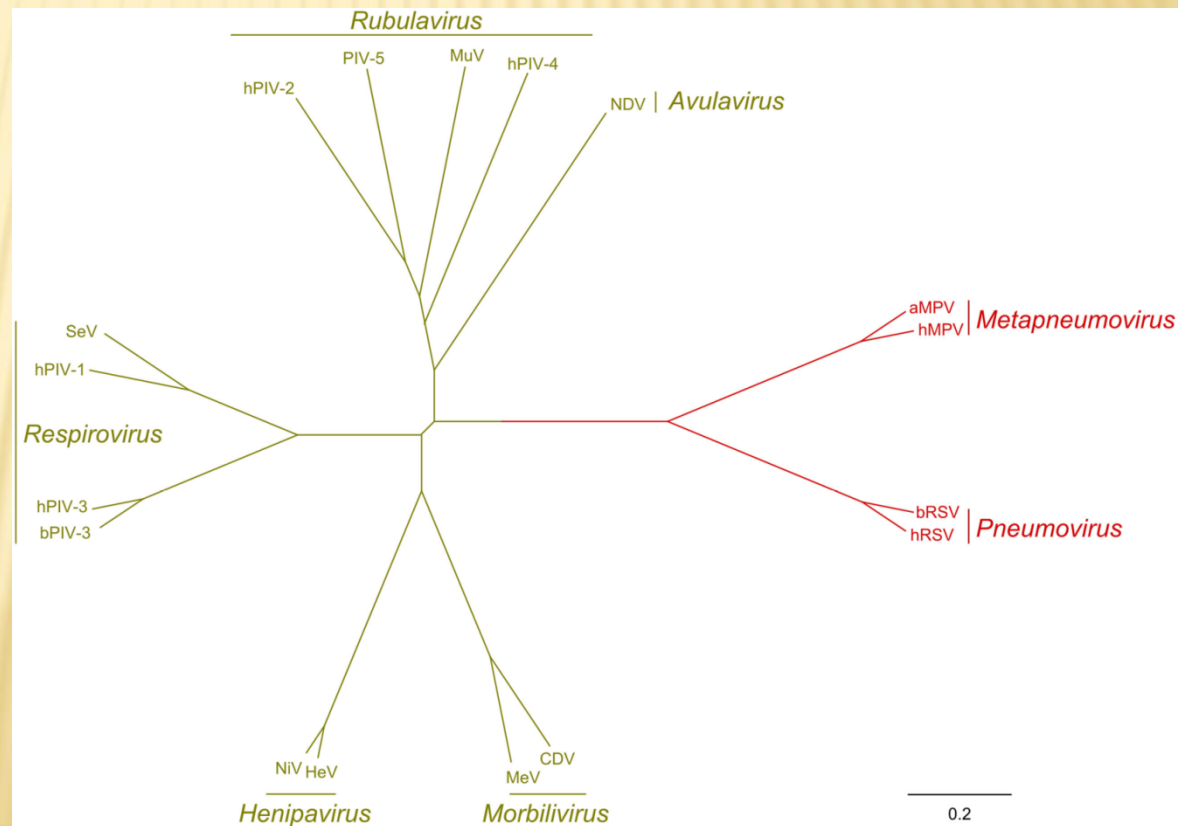
High rate of hospitalization and morbidity in infants less than 1 year



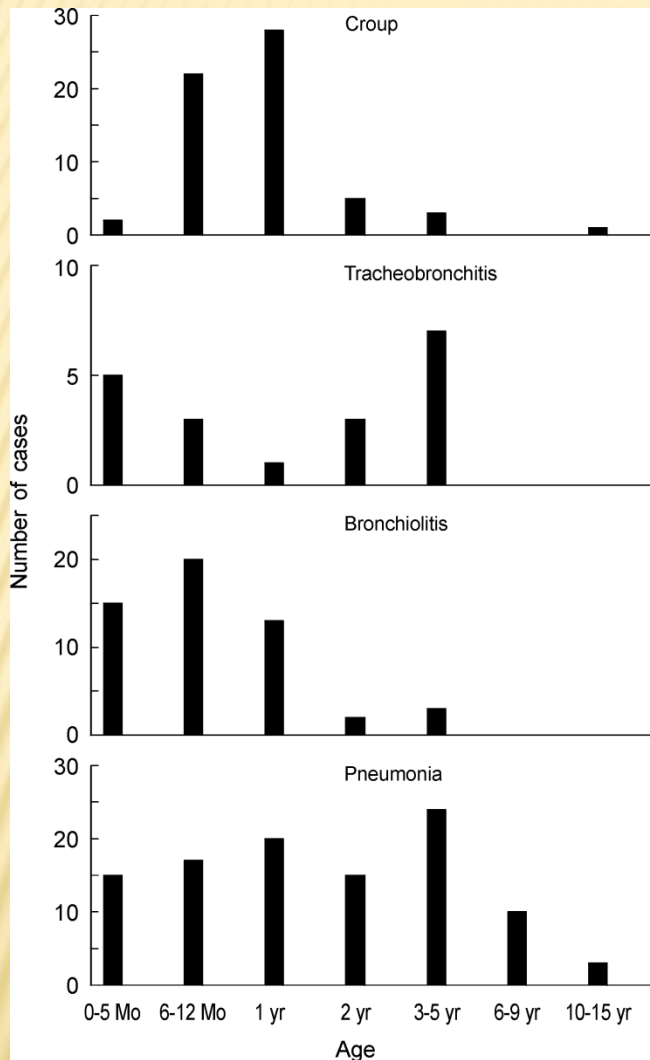
# Overview

First report 1956 by Chanock at al.

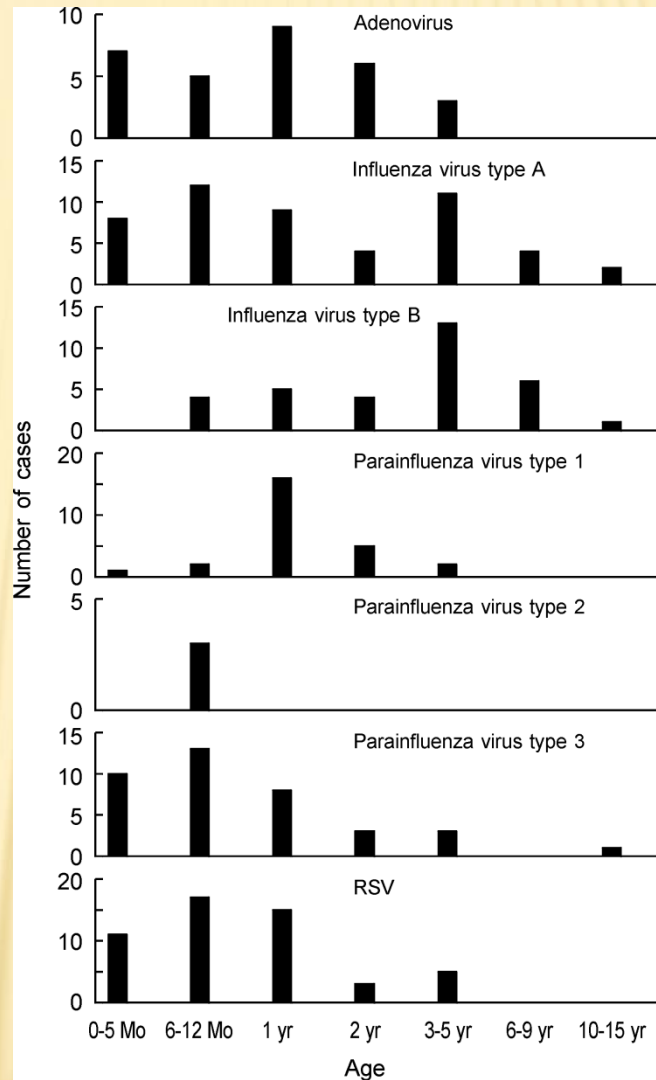
Actually belongs to *genus Repirovirus* (*hPiV-1* and *hPiV-3*) and *Rubulavirus* (*hPiV-2* and *hPiv-4*)







Distribution by age of four acute viral syndromes of the lower respiratory tract



Association of viral agents with age of patients with acute infections of the lower respiratory tract

We analyzed 2152 samples of collection of the Institute of Biomedical Sciences, USP, obtained between the years 1995 to 2005 from children attending the nursery or children's ICU of the University Hospital of USP.

This work was approved by the Ethics Committee on Research with Human Beings of ICB-USP (Opinion 808 / CEP).

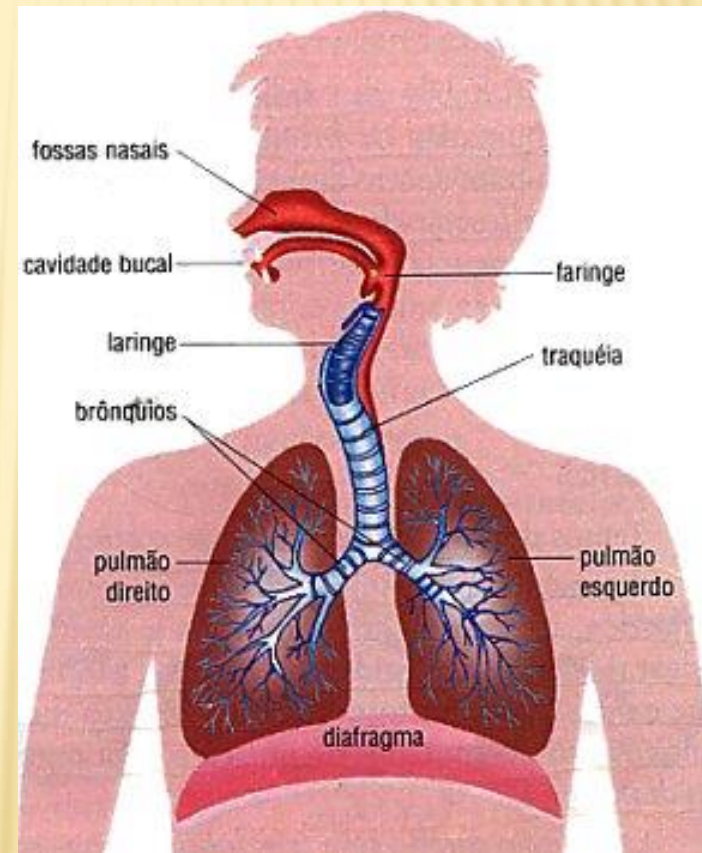


## *Transmission*

Person to person and contaminated objects

Stability of the viral particle in fomites: 4h - 10h

Incubation period of 2 to 8 days



## *Diagnostic*

- Throat swabs or nasopharyngeal and nasal aspirates + washed
- Isolation in cell culture (LLC-MK2, Vero, HeLa cells, and Hep-2)
- RT-PCR
- real time pcr
- Antigen detection by IFA

## *Prevention and treatment*

There are currently no fully effective antiviral, and its only applied support treatment

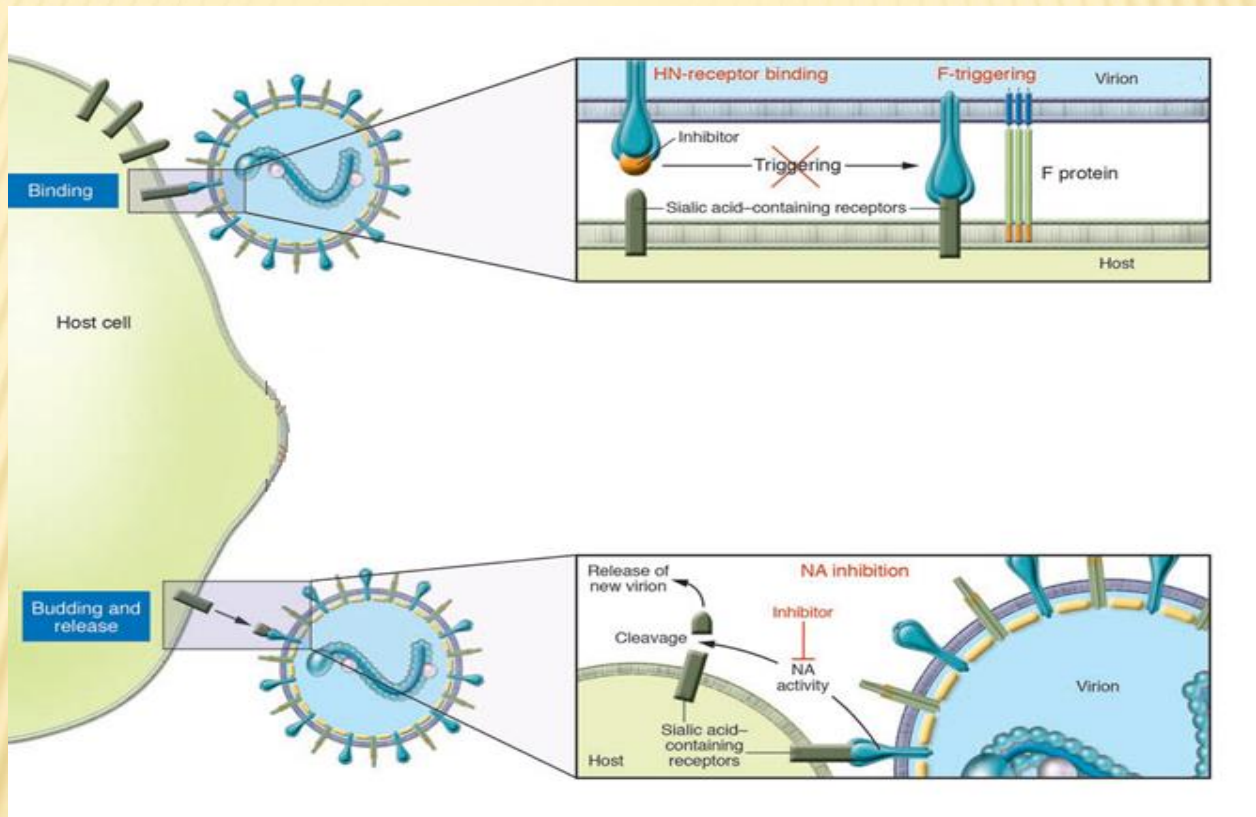
### *Antivirals tested:*

Ribavirin: only displays in vitro activity against HPIVs

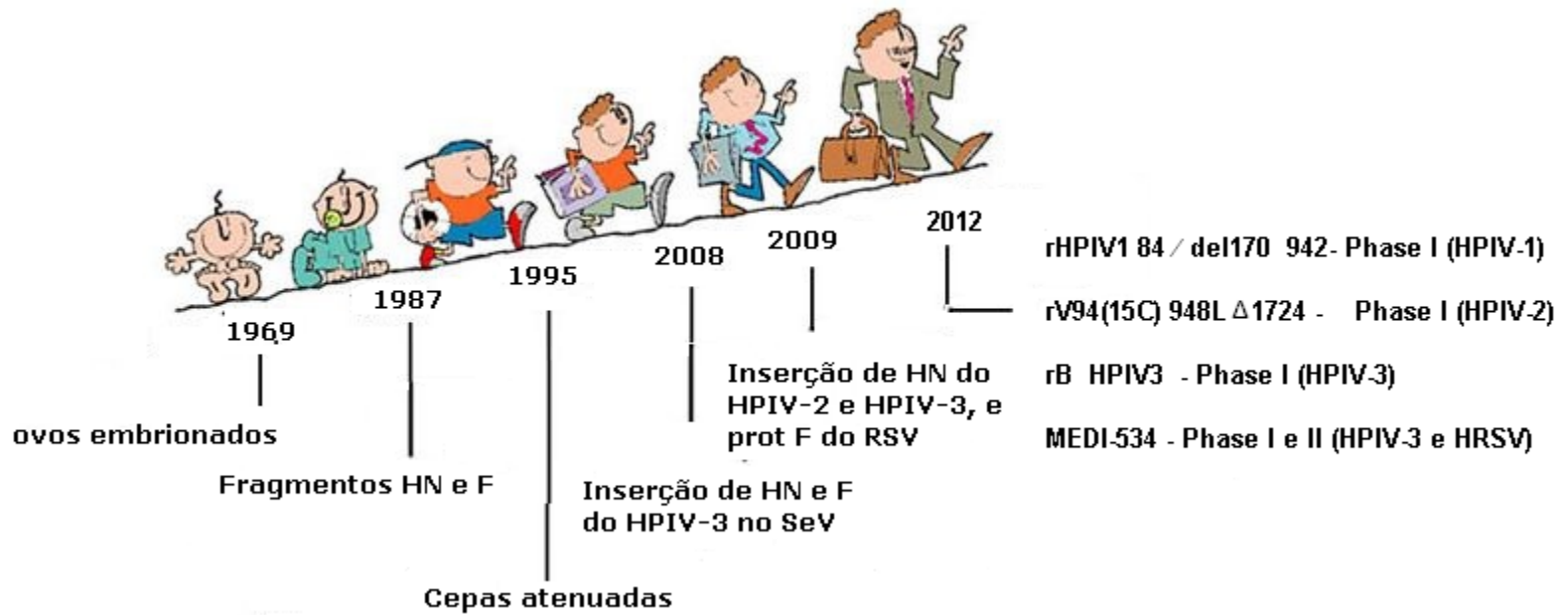
Zanamivir: only interfere in the binding of HN to the receiver, acting in the late functions of HN



# Promising drugs BCX2798 e BCX2855 (Moscona, 2005)



# Vaccine Development



## *Conclusions*

The percentage of positivity for HPIVs in children with acute respiratory syndrome, in HU-USP in São Paulo was 6%, the HPIV-3 most frequently detected.

The percentage of positivity for HPIVs in children with acute respiratory syndrome, in HU-USP in São Paulo was 6%, the HPIV-3 most frequently detected.

For 10 years there has been a movement of a genotype HPIV-1 indicates low variability HN protein stability changes over time and the temporal pattern of movement of the lines.



The Brazilian sample of HPIV-2 showed 31 changes to the 485 nucleotide fragment assessed against the prototype strain isolated in 1955 of which 74.1% were non-silent mutations.

The Brazilian sample of HPIV-2 showed 31 changes in the 485 nucleotide fragment analyzed when compared with the prototype strain isolated in 1955. 74.1% of which were non-silent mutations.

The epidemiology of HPIV-3 was characterized by the co-circulation of different strains in the same year, as well as the circulation of the same strain in different years and that the persistence of the same strain over the years can occur.

Some changes in the HPIV-3 and HPIV-2 occurred in regions that are conserved between viruses belonging to the family Paramyxoviridae - NRKSCS region (positions 254 of HPIV-3 and 262 of the HPIV-2 region) , with the main highlight of replacing the conserved lysine, where important role of antigenic and HN protein changes are reported.

Two important changes in predictive of sites of N-glicosilation, an addition and a loss were verified.

# Journal of Infectious Diseases and Therapy

- Bacteriology & Parasitology
- Clinical Microbiology: Open Access
- Virology & Antiviral Research
- Virology & Mycology





# Journal of Infectious Diseases and Therapy

- 2nd International Congress on Bacteriology and Infectious Diseases
- 3rd International Conference on Clinical Microbiology & Microbial Genomics



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