### Poxvirus

- **Brick-shaped**
- Largest DNA virus: 225 x 300 nm
- Inclusions: Guarnieri bodies
- Vesicular skin lesions in host
  - **a. Variola major** = smallpox
  - **b. Variola minor** = alastrim
  - **c. Vaccinia virus** = cowpox (vaccine against smallpox)
- **Molluscum contagiosum** = wartlike tumors

**Lab. Diagnosis:**
- CPE on cell culture
- Pocks on Chorioallantoic membrane
- Viral antigens in vesicle fluid = precipitin tests, IF
- Convalescent serum phase = 4-fold increase in antibody titer

**Tx:** Methisazone

### Parvovirus

- **Strain B19:** Cause aplastic crisis (RBC: sickle cell anemia)
- Erythema infectiosum
  - 5th disease
  - Slapped cheeks
- Hydrops fetalis: miscarriages

**Lab. Diagnosis:**
- (+) IgM
- PCR: viral DNA from blood specimen or amniotic fluid

### Herpesviridae

1' and latency infection
- **Alpha** = HSV-1, HSV-2, VZV
- **Beta** = CMV, HHV-6, HHV-7
- **Gamma** = EBV, HHV-8

**HSV-1**
- 1' infection: Gingivostomatitis
- Latent infection
  - Herpes labialis
  - Fever blister
  - Cold sore
  - Keratitis
- Common cause of viral encephalitis
- Latency site: Trigeminal ganglion

**HSV-2**
- Genital herpes
- Neonatal herpes
- Aseptic meningitis
- Cervical cancer (HPV)

**Latency site:** Sacral ganglion

**Lab. Diagnosis (HSV-1 & 2):**
1. Tzanck smear: multinucleated giant cells w/ cowdry inclusion
2. Cell culture: most diagnostic
   - CPE: 1-5 days
   - Virus ID: IFT
3. PCR

**VZV**
- 1' infection: Varicella/Chicken pox
- Recurrent/Reactivation: Zoster/Shingles
- Latency site: Dorsal root of ganglia
- Association in Reye's syndrome
<table>
<thead>
<tr>
<th>Virus Family</th>
<th>Virus(es)</th>
<th>Notes</th>
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| Flavivirus | a. Dengue fever virus  
- *Aedes aegypti*  
- Acute hemorrhagic fever  
- “Saddleback fever”, “Breakbone fever”  
b. St. Louis encephalitis virus = *Culex*  
c. Yellow fever virus = Councilman bodies  
d. Japanese B encephalitis virus  
e. West Nile encephalitis virus |
| Bunyavirus | California encephalitis virus  
Rift Valley fever  
Hantavirus: Hantaan (Korean) virus  
Hemorrhagic fever w/ renal involvement |
| Alphaviruses | Encephalitis:  
- Western equine encephalitis (WEE)  
- Eastern equine encephalitis (EEE)  
- Venezuelan equine encephalitis (VEE) |
| Rubivirus (Rubella virus) | German measles: 3-day rash  
“Blueberry muffin” baby  
Teratogenic virus (fetal defect) |
| Lab. Diagnosis: |
| - IF  
- EIA  
- HA test: sensitive |
| Rhabdoviridae | 1. Rabies virus (Lyssavirus)  
- Bullet-shaped  
- Cause encephalitis  
- Negri bodies (dog brain) = Seller’s stain  
- Classic fur stomatitis  
- Cattle, horse, pig |
| Filoviridae | Filamentous  
1. Marburg-Ebola virus  
2. Hemorrhagic fever |
| Reoviridae | 1. Rotavirus = Wagon wheel like (EM)  
2. Orbivirus = Colorado tick fever |
| Coronavirus | Club-shaped  
SARS agent; common colds  
Gastroenteritis  
Lab. Diagnosis: EM, IF, EIA |
| Calicivirus | Norwalk-like virus |
| Astrovirus | #1 gastroenteritis (adults)  
Diarrhea  
Lab. Diagnosis: EM |
| Retrovirus | Reverse transcriptase: RNA → DNA  
1. Lentivirus  
- HIV: AIDS  
2. Oncornavirus  
- HTLV-I: Human T cell Leukemia  
- HTLV-II: Hairy Cell Leukemia  
Lab. Diagnosis: |
| - Serology:  
- ELISA (screen)  
- WB (confirm) |