

Development of HA vaccines

Professor Ian Gust
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VIRAL HEPATITIS

Studies in Human Volunteers

World War II

- Havens, Neefe and Francis USA
- Macallum et al UK

Studies conducted in

- groups of conscientious objectors
- prison volunteers

VIRAL HEPATITIS

Studies in Human Volunteers

Post World War II

- Krugman, Giles and Ward
- Melnick and Boggs

Studies conducted in

- groups of mentally retarded children
- prison volunteers

VIRAL HEPATITIS

Willowbrook State School Studies



Krugman, Giles and Ward

HEPATITIS A



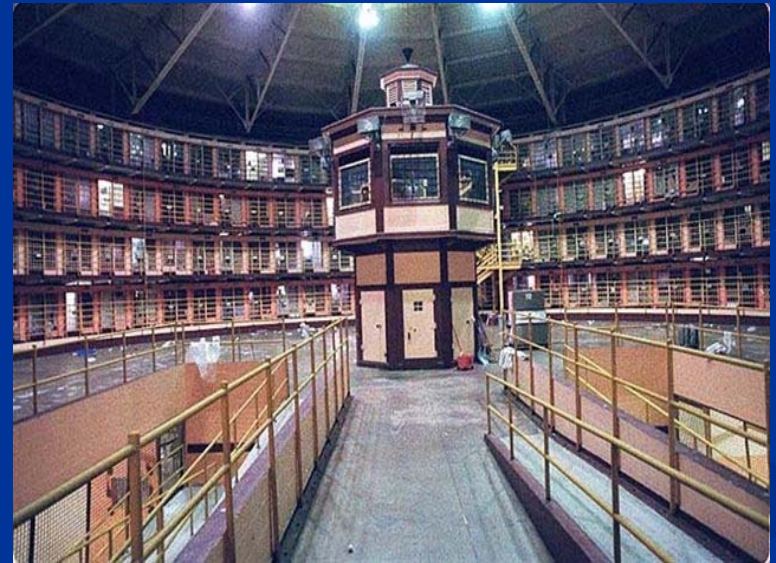
Professor Saul Krugman



MS1 and MS2

VIRAL HEPATITIS

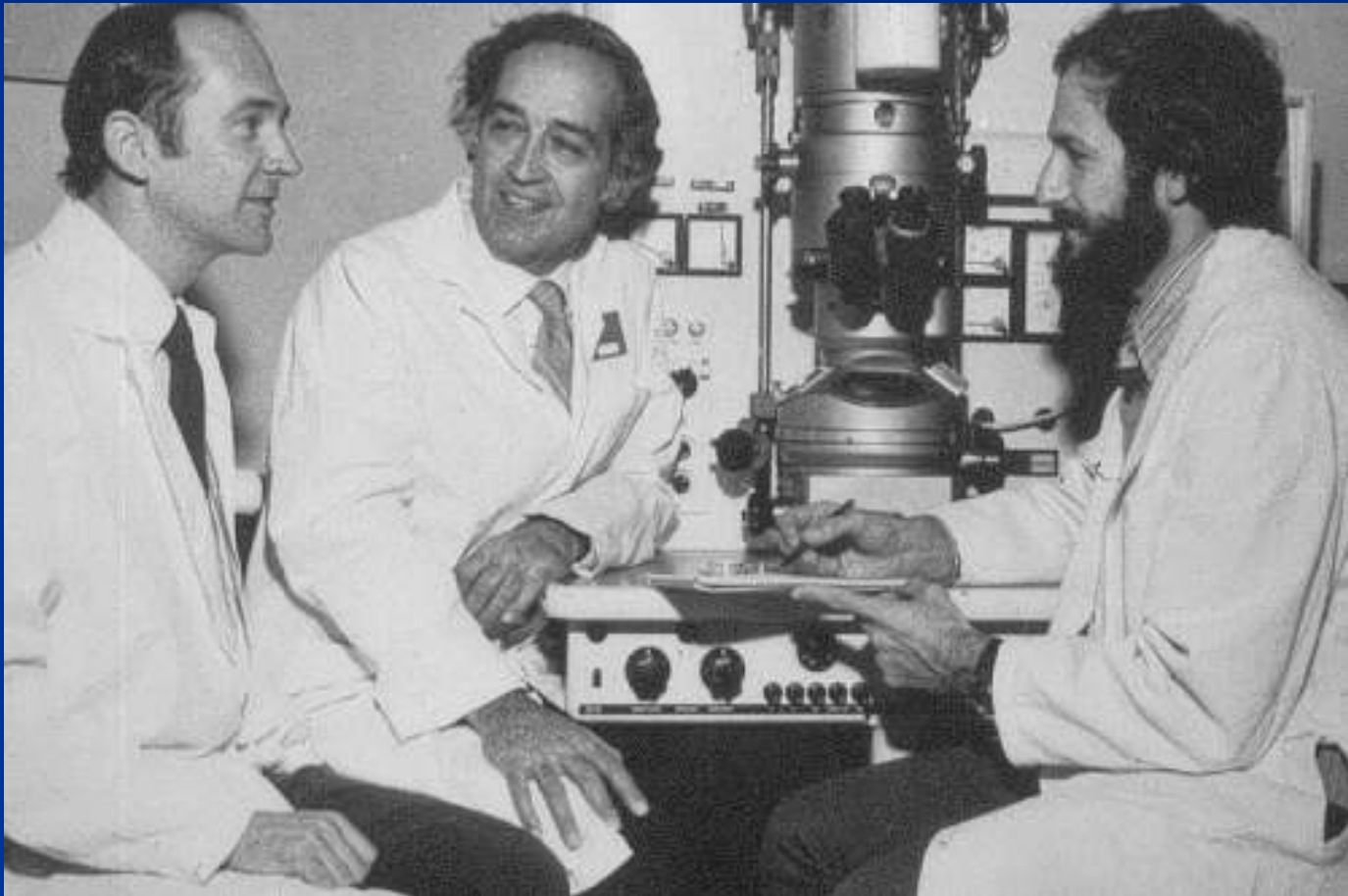
Joliet Prison Studies



Melnick and Boggs

HEPATITIS A

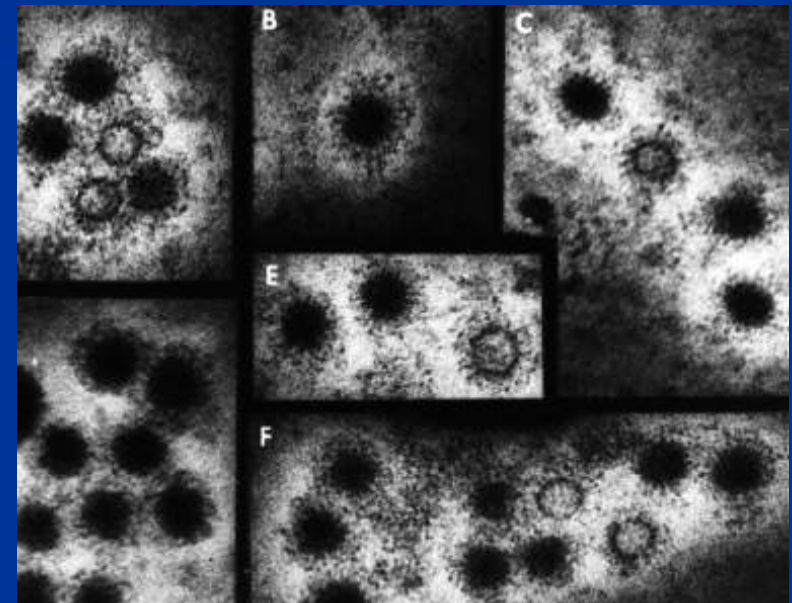
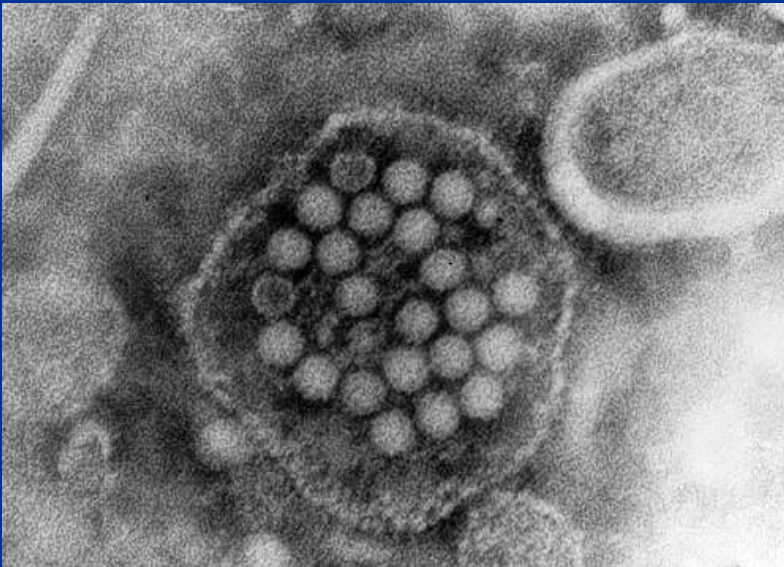
Discovery



Bob Purcell, Al Kapikian, Steve Feinstone, NIH 1973

HEPATITIS A

Aetiological agent.



HEPATITIS A

Animal Models



Dr. Fritz Deinhardt



Saguinus mystax

Development of HA vaccines

- Adaptation to cell culture

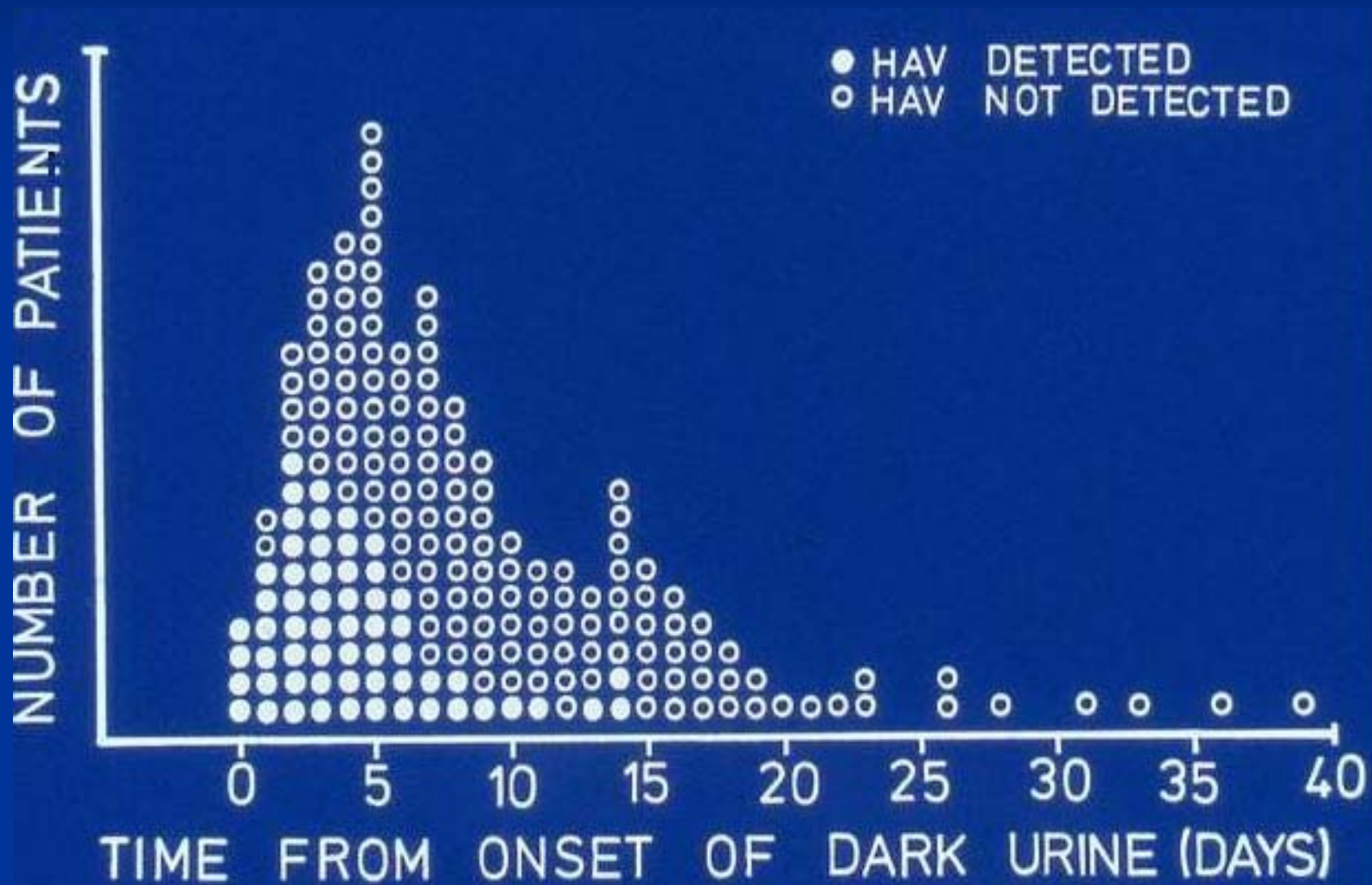
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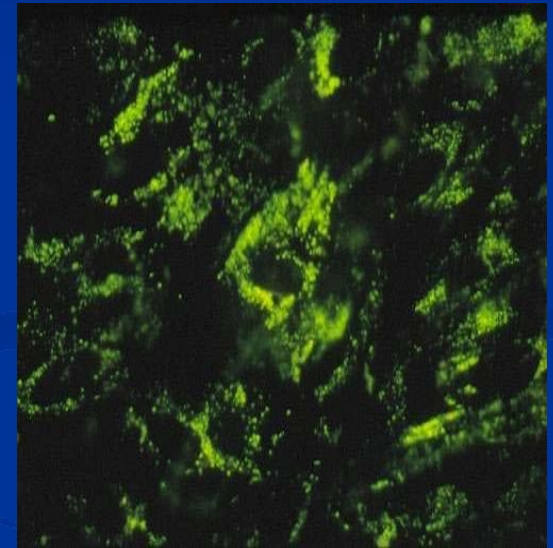
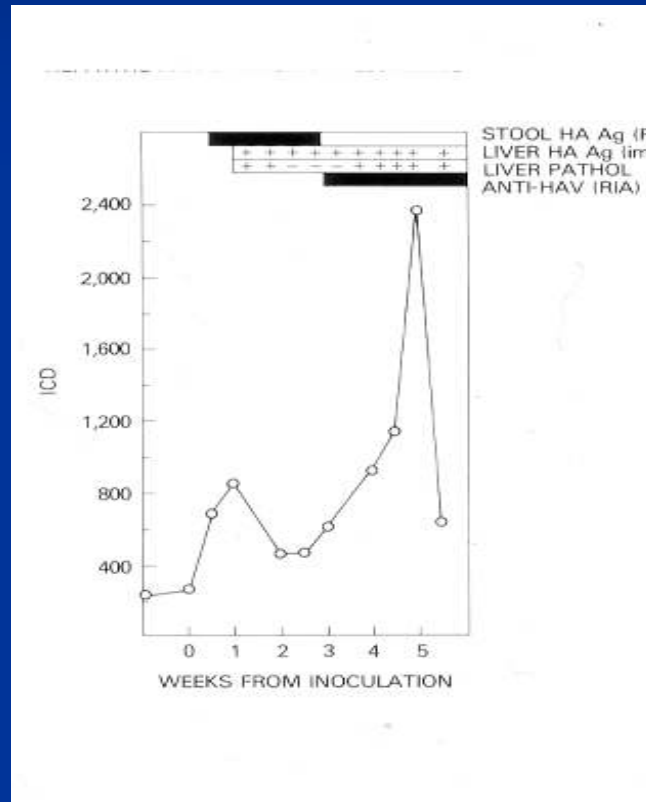
HEPATITIS A

Virus shedding in the faeces



HEPATITIS A

Vaccine Development



HEPATITIS A VACCINE

Production process

HAV



Cell Culture



Virus extraction

Crude virus harvest



Ultrafiltration, Chromatography

Purified virus



Inactivation

Inactivated virus



Absorption to alum

Vaccine

HEPATITIS A

Vaccine use in developed countries

To reduce risk of

- community wide outbreaks

- Disease in

 - travellers

 - homosexual, bisexual men

 - IV drug users

 - people with haemophilia

 - people with chronic liver disease

 - some laboratory workers

Development of HA vaccines

SERENDIPITY

- family outbreak
- second order issue
- transport problems
- surplus marmosets
- unexpected observation
- incorrect hypothesis