

George Weinstock -

Notes from 830am meeting

- talked about why he would think this is a good job
- talked about future of sequencing
- talked about faculty devlop.
- talked about NHGRI funds/projects
- talked about data release

George W's talk

Baylor 2.3M reads/month

- Came to Baylor in 1998
- Build by Richard Gibbs
- continued increase in capacity

Human genome

- just about done
- their doing chr 3, 12, some of X
- goal is to finish 50 yr anniv. of Watson-Crick

Rat genome

- 36 million reads
- ~1/2 by Celera - rest by Baylor, GTC, T16R....
- assembled w/ Atlas
- finishing stage

1870
1871

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Treponema pallidum

History of syphilis

- appeared suddenly in Europe in 1495 in a highly virulent form
- spread thru world rapidly
- ~100,000 cases per yr. in 1980's, 90's - now ~30,000
- 1910 - Ehrlich creates salvarsan "magic bullet"
- fxd w/ Plasmodium - 1927 Nobel Prize to Wagner von Jauregg
- penicillin very effective

Biology

- spirochetes not well studied
- no continuous culture
- few surface prots -
- stealthy

1980 - wrote grant application to NCI w/ Steve Norris

- when renewal came up he contacted TIGR and put in grant

Genome

- 1.2 Mb
- ~4000 genes
- many repeats
- many genes had not predicted f(x)



1952 - 1953

1952 - 1953

appeared suddenly on 10/10/52
in a highly infected form

found this month (10/10/52)
in a highly infected form

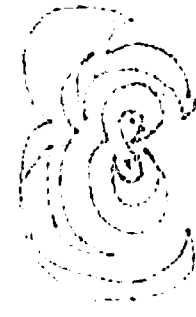
1952 - 1953

1952 - 1953

1952 - 1953

1952 - 1953

1952 - 1953



1952 - 1953

Treponema contd

- not much info on other spirochetes
- TPR proteins - Treponema pallidum repeats
- not much predicted in virulence

DETAILS NOT VISION

Brentan
 Skovs
 Rob T
 John H.
 Barb M.
 Brentan L
 Bill N.
 Chris T.
 Scott A.
 Ripon B
 Cathy W
 Emma
 John C

Post-Sequencing

- Expression of key genes ^{complete gene → flk assays}
- Immunodiagnosis - use ^{partial → antigens}
- Vaccines - use rabbit
- Clone/express all genes - using connector system
- Screen all for antigens - in microtiter wells
- Phage display - info system
- Gene regulation - use E. coli to do studies
- Comp. genomics

ARE THERE ANY SPIROCHETES THAT CAN BE GROWN IN CULTURE?

MANY ANALOGS TO UNCULTURED MICROBES

ASSEMBLE ECOLI GENOMES

-MAP MBB ends onto other genomes

Phage display from environmental samples

HOW MANY WAYS CAN YOU SAY NO?

Department of...

not much more to offer...

... 1975 problem - treatment...

... not much more...

... 1975 problem...

... not much more...

... 1975 problem...

... not much more...

... 1975 problem...

... 1975 problem...

... 1975 problem...

... 1975 problem...

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... 1975 problem...

Comparative Genomics

T.p. pallidum Venereal syphilis
T.p. pertenue Yaws

- Genome wide footprinting
- only found 4 regions w/ sign. differences between strains.
 - all near TPR genes
 - lots of hypob near TPR genes.