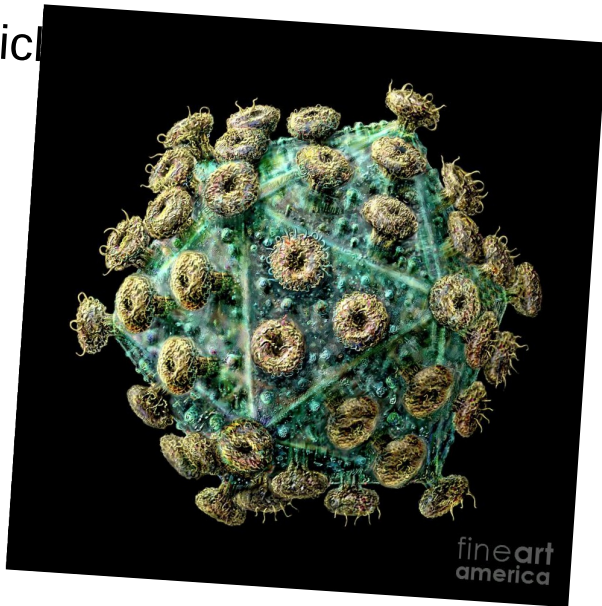




The Genes of HIV/AIDS

Tamara Chin Loy

Click



What are HIV & AIDS?

- Human immunodeficiency virus
- Retrovirus
- Transmission
- Stages of Infection
 - Acquired immunodeficiency syndrome

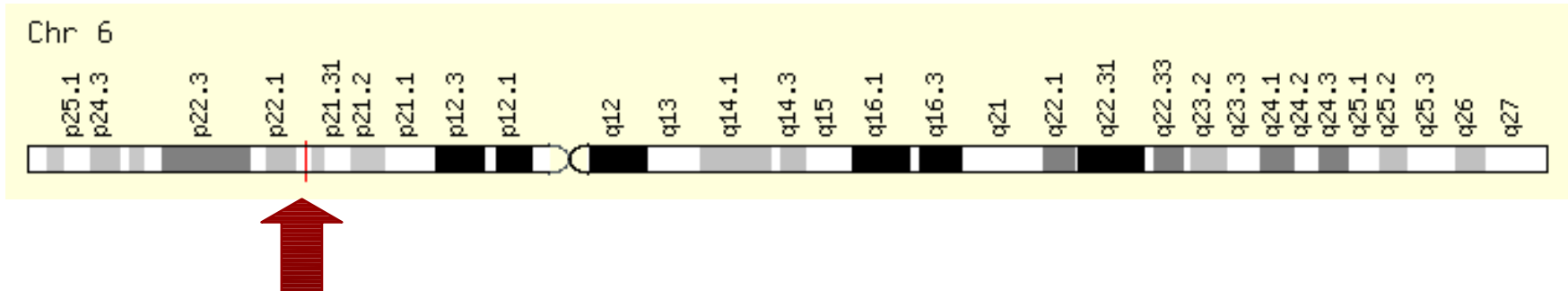
Click ic



HCP5: Overview

- Location
 - 6p21.3
 - 76,805 Bases
- Gene ontology
 - Defense response
- HIV/AIDS

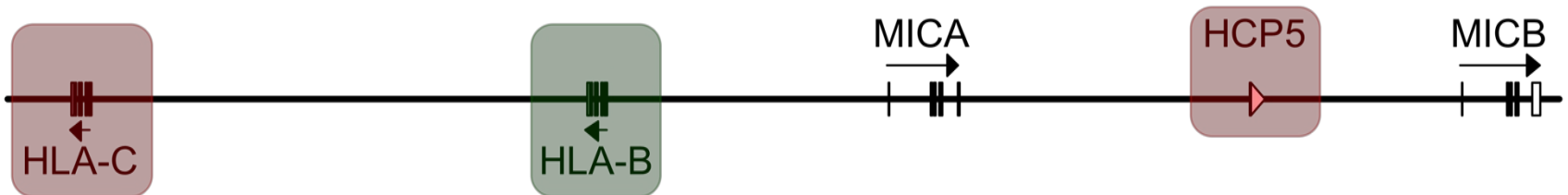
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HCP5: GWAS

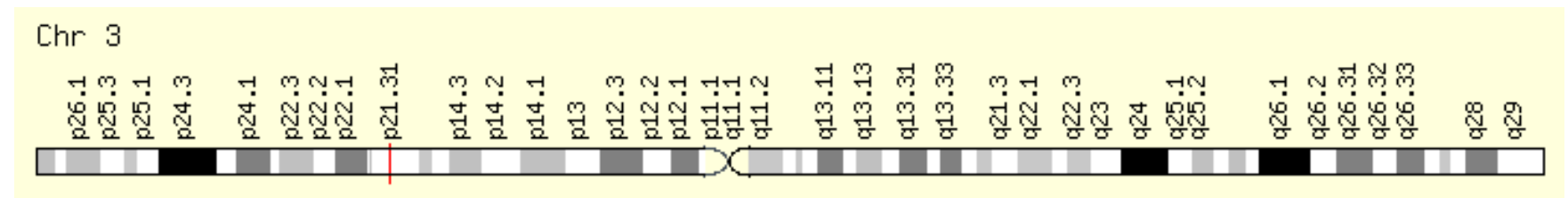
Drag picture to placeholder or click icon to add

- GWAS of HCP5
 - Who?
 - What?
 - Odds Ratio
 - Heritability
- What does this mean?



CCR5: Overview

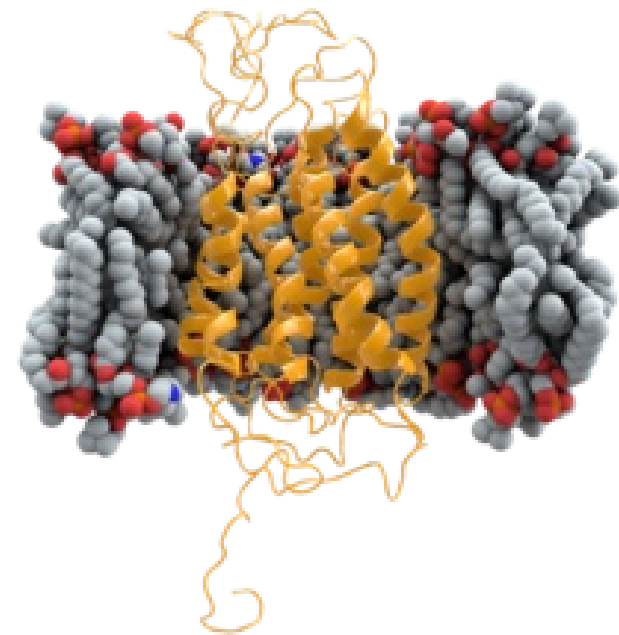
- Location
 - 3p21.31
 - 6,065 bases
- Gene Ontology
 - C-C Chemokine receptor activity
 - Modulation by virus of host morphology or physiology



Drag picture to placeholder or click icon to add

CCR5 $\Delta 32$ Variant

- Study
 - Who?
 - What?
- What does this mean?
 - Co-receptor
 - Protective genotype



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Treatment Possibilities

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to placeholder
or click icon to
add

- Gene Therapy
 - HCP5
 - CCR5
- Hematopoietic Stem Cell Treatment
 - Berlin Patient



Sources



- **CDC:** <http://www.cdc.gov/hiv/basics/whatishiv.html>
- **DefeatHIV:** <http://defeathiv.org/berlin/>
- **GeneCards:** <http://www.genecards.org/cgi-bin/carddisp.pl?gene=CCR5>
- **GeneCards:** <http://www.genecards.org/cgi-bin/carddisp.pl?gene=HCP5>
- **NCBI:** <http://www.ncbi.nlm.nih.gov/retroviruses/>
- **UniProt:** <http://www.uniprot.org/uniprot/P51681>

Studies



- **Genomewide Association Study of an AIDS-Nonprogression Cohort Emphasizes the Role Played by HLA Genes (ANRS Genomewide Association Study 02):**
<http://jid.oxfordjournals.org/content/199/3/419.full>
- **Resistance to HIV-1 infection in Caucasian individuals bearing mutant alleles of the CCR-5 chemokine receptor gene:**
<http://www.nature.com/nature/journal/v382/n6593/abs/382722a0.html>



Thank you for listening!

Questions?