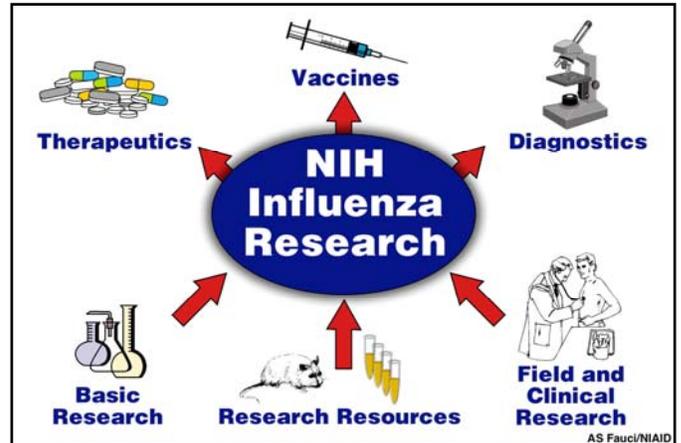


Hearing of the House Committee on Energy and Commerce,  
Subcommittee on Oversight and Investigations

## The Role of the National Institute of Allergy and Infectious Diseases in Research Addressing Seasonal and Pandemic Influenza

Anthony S. Fauci, M.D.  
Director  
National Institute of Allergy and Infectious Diseases  
National Institutes of Health  
February 3, 2015





### Classic Platforms for Seasonal and Pandemic Influenza Vaccines

- Inactivated influenza virus grown in eggs or cells
- Live, attenuated influenza virus grown in eggs or cells

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### New Platforms for Seasonal and Pandemic Influenza Vaccines

- Recombinant subunit
- Synthetic peptide
- Microbial vector
- Nanoparticle-based
- Virus-like particles (VLPs)
- DNA-based
- Novel delivery systems (e.g., microneedles)

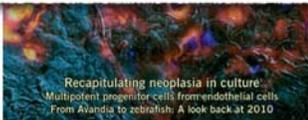
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December 2010  
Volume 16 No 12

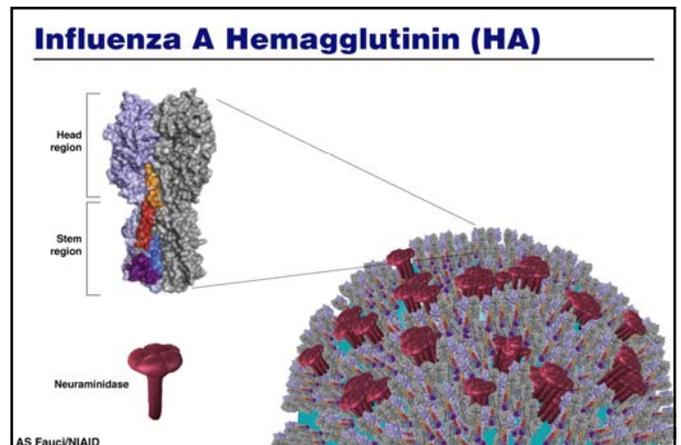
### Induction of Unnatural Immunity: Prospects for a Broadly Protective Universal Influenza Vaccine

GJ Nabel and AS Fauci

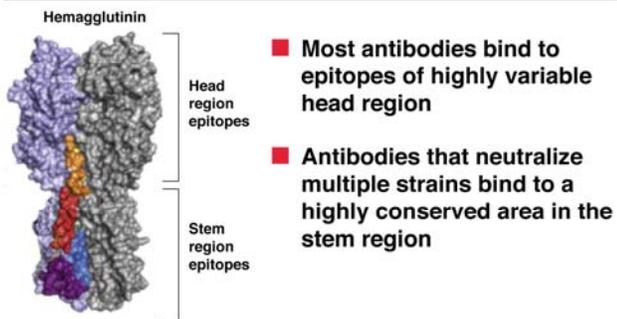


Recapitulating neoplasia in culture: Multipotent progenitor cells from endothelial cells. From Avandia to zebrafish: A look back at 2010.

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## Generating Broadly Neutralizing Antibodies: Targeting the Stem



Source: Laursen NS and Wilson IA. Antiviral Research 98:3, 2013.

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## NIAID-Supported Universal Influenza Vaccine Candidates

- DNA "Prime," Seasonal Influenza Vaccine "Boost"
- HA Stem Vaccines
- HA-Ferritin Nanoparticle Vaccines
- Computationally Optimized Broadly Reactive Antigen (COBRA) Vaccines

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