

## The American Association of Immunologists Timeline Image Credits

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### Panel 1(1913–1928)

Science and Immunology Images

1913 –

1925 – “Great Race of Mercy”: Library of Congress, Prints and

1927 – Photo by American Commercial Photographers, St. Louis, MO; Library of Congress, Prints and Photographs Division, Miscellaneous Items in High Demand.

1928 – Photo by International Newsreel; Library of Congress, Prints and Photographs Division, New York World-Telegram and the Sun Newspaper Photograph Collection.

## Panel2 (1929-1940)

### Science and Immunology Images

- 1929 – “The Roscoe B. Jackson Memorial Laboratory”: WHO photo; National Library of Medicine, Images from the History of Medicine.
- 1930 – “Karl Landsteiner (AAI '22)”: Courtesy of University of Maryland, Baltimore County, The American Association of Immunologists Records.
- 1930 – “The Ransdell Act”: National Library of Medicine, Images from the History of Medicine.
- 1930 – “Rudolf Weigl”: National Library of Medicine, Images from the History of Medicine.
- 1931 – “First electron microscope”: Photo by T. Farkas for WHO; National Library of Medicine, Images from the History of Medicine.
- 1932 – “U.S. Public Health Service”: National Archives, Atlanta, GA, Records of the Centers for Disease Control and Prevention, 1921–2006.
- 1933 – “Report on hazardous effects of radium dial painting”: University of Medicine and Dentistry of New Jersey, University Libraries Special Collections, U.S. Radium Corporation, East Orange, NJ, Records, 1917-1940.
- 1934 – “Ida Bengtson”: National Library of Medicine, Images from the History of Medicine.
- 1935 – “Prontosil”:

## U.S./World Images

- 1929 –Library of Congress, Prints and Photographs Division, Miscellaneous Items in High Demand.
- 1931 – Works Progress Administration photo; National Archives, College Park, MD, Still Pictures, Record Group 69: Records of the Work Projects Administration, 1922–1944.
- 1932 – Cover, *Brave New World*, 1st ed., London: Chatto & Windus, 1932.
- 1933 – Photo by J. Sherrel Lake; Library of Congress, Prints and Photographs Division, Farm Security Administration/Office of War Information Black and White Negatives
- 1936 –Library of Congress, Prints and Photographs Division, Miscellaneous Items in High Demand.
- 1937 – U.S. Navy historical photo; Joint Base McGuire-Lakehurst Photo Archive.
- 1939 – National Archives, College Park, MD, Still Pictures, Jerome R. Lilienthal Stereographic Collection Relating to the German Invasion of Poland, 1939.
- 1940 –Library of Congress, Prints and Photographs Division, Miscellaneous Items in High Demand.



- 1948 – “Jacques Oudin (AAI '54) and Örjan Ouchterlony” Figure 3 from Keith E. Jensen and Thomas Francis, Jr., “Antigen-Antibody Precipitates in Solid Medium with Influenza Virus,” *The Journal of Immunology* 70, no. 3 (1953): 321–25.
- 1948 – “George Snell and Peter Gorer”: National Library of Medicine, *Images from the History of Medicine*.
- 1948 – “Astrid Fagraeus (AAI '71)”: Peter Maslak, ASH Image Bank, © American Society of Hematology.
- 1948 – “William Stein and Stanford Moore”: U.S. Food and Drug Administration.
- 1949 – “F. Macfarlane Burnet (AAI '61) and Frank Fenner”: Courtesy of the Lasker Foundation.
- 1949 – “Wallace Coulter”: Wikimedia Commons
- 1949 – “Carbon Dating” Smithsonian National Museum of Natural History.
- 1950 – “Esther Lederberg”: National Library of Medicine

- 1949 – Cover, George Orwell, *Nineteen Eighty-Four*, 1st ed., London: Secker and Warburg, 1949.
- 1950 – U.S. Air Force photo; National Archives, College Park, MD, Still Pictures, Record Group 342: Records of U.S. Air Force Commands, Activities, and Organizations, 1900–2003.
- 1951 – Photo by Marjory Collins; Library of Congress, Prints and Photographs Division, Farm Security Administration/Office of War Information Black and White Negatives.
- 1952 – Cover, Anne Frank, *The Diary of a Young Girl*, 1st hardcover ed., New York: Doubleday, 1952.

## Panel 4 (1953-1964)

Science and Immunology Images

1953 – “Acquired immunological tolerance”:

1959 – “IgA”: Icon created by Rings Leighton Design Group for AAI.

1960 – “Radioimmunoassay (RIA)”: Courtesy of the Department of Chemistry, Michigan State University.

1960 –



- 1971 – “Otto Götze (AAI '72) and Hans Müller-Eberhard (AAI '62)”: Photo by James Gathany  
CDC Public Health Image Library
- 1971 – “Ag-specific recruitment of T cells”: AArchives
- 1971 – “Measles, Mumps, Rubella (MMR) vaccine”: Centers for Disease Control and  
Prevention/Meredith Hickson; CDC Public Health Image Library
- 1971 – “Baby born with SCID”: NASA Johnson Space Center.
- 1972 – “Affinity threshold”: Courtesy of The Scripps Research Institute.
- 1973 – “Dendritic cells”: Cell art by AAI Staff.
- 1973 – “Natural Killer (NK)”: Cell art by AAI Staff.
- 1973 –

1973 –

## Panel6 (1976-1988)

Science and Immunology Images

1976 – “Crosspriming”: AAI Archive.

1976 – “Immunoglobulin gene rearrangement”: Courtesy of FASEB.

1976 – “First known Ebola virus outbreak”: Photo by Frederick Murphy, Centers for Disease Control and Prevention; CDC Public Health Image Library

1976 – “The role of protooncogenes”: [unclear] 1976 56.41<226

- 1985 – “Model of mast cell engraftment”: Cover photo from The Journal of Immunology 190, no. 4 (2013); photo by Anne Y. Liu, Dan F. Dwyer, Tatiana G. Jones, Lora G. Bankova, Shiliang Shen, Howard R. Katz, K. Frank Austen, and Michael F. Gurish.
- 1985 – “The NIH budget” icon created by Rings Leighton Design Group for AAI.
- 1986 – “Th1/Th2 subsets”: Cell art by AAI for AAI.
- 1986 – “Missing self theory”: Icon created by Rings Leighton Design Group for AAI.
- 1986 – “NF- $\kappa$ B” Coverphoto from The Journal of Immunology 175, no. 12 (2005) photo by Adrian F. Arechiga, Bryan D. Bell, Jennifer C. Solomon, Isaac H. Chu, Claire H. Choi, Brian E. Hall, Thaddeus C. George, David M. Coder, and Craig M. Walsh.
- 1986 – “3 / 7 FHOOV' & HOO DUW E \ \$\$, 6WDII” icon created by Rings Leighton Design Group for AAI.
- 1987 – “Negative selection”: Figure 1178 from Henry Gray, Anatomy of the Human Body, 20th ed.,

## Panel 7 (1989-2000)

### Science and Immunology Images

1989 – “ $\gamma$ 7\*”) Image by Michael Sporn, National Cancer Institute, NCI Visuals Online

1989 – “Hygiene hypothesis”: Photo from “Allergy Relief for Your Child,” FDA Consumer Health Information Update, U.S. Food and Drug Administration, September 2011.

1990 – “ $\alpha$ 3,  $\beta$ 1,  $\gamma$ 1,  $\delta$ 1,  $\epsilon$ 1,  $\zeta$ 1,  $\eta$ 1,  $\theta$ 1,  $\iota$ 1,  $\kappa$ 1,  $\lambda$ 1,  $\mu$ 1,  $\nu$ 1,  $\xi$ 1,  $\omicron$ 1,  $\pi$ 1,  $\rho$ 1,  $\sigma$ 1,  $\tau$ 1,  $\upsilon$ 1,  $\phi$ 1,  $\chi$ 1,  $\psi$ 1,  $\omega$ 1” Photo by Wasif N. Khan, “B Cell Receptor Signaling Regulation of B Cell Homeostasis,” *The Journal of Immunology*, no. 6 (2009): 3561–67.

1990 – “IL-10”: Icon created by Rings Leighton Design Group for AAI.

1990 – “Role of IL-4”: Icon created by Rings Leighton Design Group for AAI.

1990 – “ $\alpha$ 3,  $\beta$ 1,  $\gamma$ 1,  $\delta$ 1,  $\epsilon$ 1,  $\zeta$ 1,  $\eta$ 1,  $\theta$ 1,  $\iota$ 1,  $\kappa$ 1,  $\lambda$ 1,  $\mu$ 1,  $\nu$ 1,  $\xi$ 1,  $\omicron$ 1,  $\pi$ 1,  $\rho$ 1,  $\sigma$ 1,  $\tau$ 1,  $\upsilon$ 1,  $\phi$ 1,  $\chi$ 1,  $\psi$ 1,  $\omega$ 1” Photo by Maggie Bartlett, National Human Genome Research Institute, NHGRI Digital Media Database

1991 – “Preferred amino acids”: Figure 5 from Fuliang Chu, Zhiyong Lou, Yu Wai Chen, Yiwei Liu, Bin Gao, Lili Zong, Abdul Hamid Khan, John I. Bell, Zihao Rao, and George F. Gao, “First Glimpse of the Peptide Presentation by Rhesus Macaque MHC Class I: Crystal Structures of MamuA\*01 Complexed with Two Immunogenic SIV Epitopes and Insights into CTL Escape,” *The Journal of Immunology*, no. 2 (2007): 944–52.

1991 – “Role of Th1/Th2” Photo by Bruce Wetzell and Harry Schaefer, National Cancer Institute, NCI Visuals Online

1991 – “Recombinant G-CSF (Filgrastim)”: Icon created by Rings Leighton Design Group for AAI.

1991 – “First definitive identification of a tumor antigen”: National Cancer Institute, NCI Visuals Online

1992 – “Ly49 receptors”: Image from Figure 3 in Jacques Deguine, Béatrice Breart, Fabrice Lemâtre, and Philippe Bousso, “Cutting Edge: Tumor Targeting Antibodies Enhance NKG2D-Mediated NK Cell Cytotoxicity by Stabilizing NK Cell–Tumor Cell Interactions,” *The Journal of Immunology*, no. 12 (2012): 5493–97.

1992 – “Role of Fas” Icon created by Rings Leighton Design Group for AAI.

1993 – “First report of spontaneous autoimmune disease”: Image from Figure 1 in Hongmei Li, Bardia Nourbakhsh, Farinaz Safavi, Ke Li, Hui Xu, Melissa Cullimore, Fang Zhou, Guangxian Zhang, and Abdolmohamad Rostami, “Kit<sup>+/+</sup> Mice Develop Earlier and More Severe Experimental Autoimmune Encephalomyelitis Due to Absence of Immune Suppression,” *The Journal of Immunology*, no. 1 (2011): 274–82.

1993 – “Role of IL-12”: Icon created by Rings Leighton Design Group for AAI.

1993 – “Receptor editing” Cover photo from *The Journal of Immunology*, no. 12 (2012); photo by Eric B. Wong, Tahsin N. Khan, Chandra Mohan, and S. M. Rahman.

1994 – “CTLA-4”: Icon created by Rings Leighton Design Group for AAI.

1995 – “CD4<sup>+</sup>CD25<sup>+</sup> cells”: Courtesy of Kim J. Hasenkrug, Rocky Mountain Laboratories, National Institute of Allergy and Infectious Diseases.

- 1995 – “First dendritic cell vaccine trial”: CDC Public Health Image Library
- 1996 – “Toll”: Photo by Sriram Subramaniam for the National Cancer Institute; National Institutes of Health, NIH Image Bank.
- 1996 – “CXCR4”: National Institute of Allergy and Infectious Diseases.
- 1996 – “MHC I tetramers”: Figure 1 from Yan Wu, Feng Gao, Jun Liu, Jianxun Qi, Emma Gostick, David A. Price, and George F. Gao, “Structural Basis of Diverse Peptide Accommodation by the Rhesus Macaque MHC Class I Molecule MAM17: Insights into Immune Protection from Simian Immunodeficiency Virus,” *The Journal of Immunology* 187, no. 12 (2011): 6382–92.
- 1996 – “A mutation in the gene encoding CCR5”: Cecil H. Fox, National Cancer Institute.
- 1996 – “Microarrays”: Originally in Sandeep S. Dave et al., “Molecular Dissection of Burkitt's Lymphoma,” *New England Journal of Medicine* 354, no. 23 (2006): 2442. National Cancer Institute, NCI Visuals Online.
- 1997 – “Anti-CD20 mAb (Rituximab)”: Icon created by Rings Leighton Design Group for AAI.
- 1997 – “First AIDS “cocktail””: Image supplied by Rings Leighton Design Group.
- 1998 – “Anti-HER-2 mAb (Herceptin)”: Icon created by Rings Leighton Design Group for AAI.
- 1998 – “Five year doubling of the NIH budget”: Icon created by Rings Leighton Design Group for AAI.
- 1999 – “Human plasmacytoid dendritic cells”: Image from Figure 6 in Florentia Pascale, Vanessa Contreras, Michel Bonneau, Alexandre Courbet, Stefan Chilmonczyk, Claudia Bevilacqua, Mathieu Eparaud, Violeta Niborski, Sabine Riffault, Marie Balazuc, Eliane Foulon, Laurence Guzylae Piriou, Beatrice Riteau, Jayne Hope, Nicolas Bertho, Bernard Charley, and Isabelle Schwach Gornil, “Plasmacytoid Dendritic Cells Migrate in Afferent Skin Lymph,” *The Journal of Immunology* 180, no. 9 (2008): 5963–72.
- 1999 – “Immunological synapse”: Cover photo from *The Journal of Immunology* 187, no. 11 (2011); photo by Leslie K. Robertson and Hanne L. Ostergaard.
- 2000 – “The follicular T helper cell (T<sub>fh</sub>)”: Cell art by AAI staff.
- 2000 – “M1/M2 subtypes”: Figure 1 from Marie Benoit, Benoît Desnues and Louis Mege “Macrophage Polarization in Bacterial Infections,” *The Journal of Immunology* 184, no. 6 (2008): 3733–39.

#### U.S./World Images

- 1989 – National Archives, College Park, MD, Still Pictures, Record Group 330: Records of the Office of the Secretary of Defense, 192008.
- 1990 – NASA Public Affairs Image Collection, Shuttle Mission Imagery.
- 1991 – Created by Robert Cailliau, CERN; Wikimedia Commons.
- 1993 – Photo by Angela Radulescu; Flickr.
- 1994 – Poster from Columbia College Chicago Archives, Digital Commons, Chicago Anti Apartheid Movement Collection, African Political Posters.

1995 – © Disney/Pixar Films.

1996 – Google.

1997 – Courtesy of The Roslin Institute, The University of Edinburgh, Roslin, Scotland, UK.

1998 – Eiger MPMAN F20.

1999 – Wikimedia Commons.

2000 – Photo by Roger Higgins; Library of Congress, Prints and Photographs Division, New York World-Telegram and the Sun Newspaper Photograph Collection.

## Panel 8 (2004-2013)

Science and Immunology Images

2001 – “The term ‘microbiome’”: Photo by Nathan Shankar, University of Oklahoma; digital

- 2006 – “First human papillomavirus vaccine”: Photo by Laboratory of Tumor Virus Biology National Cancer Institute/NCI Visuals Online.
- 2006 – “PD1”: Cell art by AAI staff.
- 2006 – “Identification of a relationship”: Photo by Debora Cartagena/Centers for Disease Control and Prevention; CDC Public Health Image Library
- 2007 – “The term ‘myeloid derived suppressor cells’”: Photo by Lorraine Liotta Laboratory, National Cancer Institute/NCI Visuals Online.
- 2007 – “The first complement specific inhibitor (antiC5)”: Icon created by Rings Leighton Design Group for AAI.
- 2008 – “Prevalence of peanut allergy”: Photo by Karen Williams; U.S. Department of Agriculture, Agricultural Research Service Image Gallery.
- 2009 – “Importance of microbiome”: Photo by Janice Haney, Centers for Disease Control and Prevention; CDC Public Health Image Library
- 2009 – “H1N1 (swine flu) pandemic”: Photo by Scott Bauer; U.S. Department of Agriculture, Agricultural Research Service Image Gallery.
- 2009 – “The NIH budget”: Icon created by Rings Leighton Design Group for AAI.
- 2010 – “Nuocytes/natural killer cells/Ih2 cells”: Centers for Disease Control and Prevention/Mae Melvin; CDC Public Health Image Library
- 2010 – “Autologous cellular immunotherapy (Provenge)”: Icon created by Rings Leighton Design Group for AAI.
- 2011 – “Bruce Beutler (AAI '06) and Julius Hoffman; Ralph Steinman (AAI '75)”: Beutler portrait by Brian Coats for UT Southwestern; courtesy of UT Southwestern. Steinman portrait courtesy of Rockefeller University.
- 2011 – “BRAF enzyme inhibition is used for the treatment of melanoma”: Photo by PubChem Open Chemistry Database.
- 2011 – “Roles of different subsets of innate lymphocytes”: National Institute of Allergy and Infectious Diseases.
- 2011 – “BRAF enzyme inhibition”: Icon created by our team (1/13/13) (as)-5(es)3

2013 – ‘Cancer Immunotherapy named Breakthrough of the Year by Science magazine’:  
National Institutes of Health.

2013 – “Sequestration”: