1901 [Emil Adolf von Behring](https://en.wikipedia.org/wiki/Emil_Adolf_von_Behring) [Germany](https://en.wikipedia.org/wiki/German_Empire%22%20%5Co%20%22German%20Empire)"for his work on [serum](https://en.wikipedia.org/wiki/Blood_plasma) therapy, especially its application against [diphtheria](https://en.wikipedia.org/wiki/Diphtheria), by which he has opened a new road in the domain of medical science and thereby placed in the hands of the physician a victorious weapon against illness and deaths"[[13]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1901-13)

1902 Sir [Ronald Ross](https://en.wikipedia.org/wiki/Ronald_Ross) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for his work on [malaria](https://en.wikipedia.org/wiki/Malaria), by which he has shown how it enters the organism and thereby has laid the foundation for successful research on this disease and methods of combating it"[[14]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1902-14)

1903 [Niels Ryberg Finsen](https://en.wikipedia.org/wiki/Niels_Ryberg_Finsen) [Denmark](https://en.wikipedia.org/wiki/Denmark) ( [Faroe Islands](https://en.wikipedia.org/wiki/Faroe_Islands))"[for] his contribution to the treatment of diseases, especially [lupus vulgaris](https://en.wikipedia.org/wiki/Lupus_vulgaris), with concentrated light radiation, whereby he has opened a new avenue for medical science"[[15]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1903-15)

**1904** [**Ivan Petrovich Pavlov**](https://en.wikipedia.org/wiki/Ivan_Pavlov)** [Russia](https://en.wikipedia.org/wiki/Russian_Empire%22%20%5Co%20%22Russian%20Empire)"in recognition of his work on the physiology of**[**digestion**](https://en.wikipedia.org/wiki/Digestive_system), through which knowledge on vital aspects of the subject has been transformed and enlarged"[[16]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1904-16)

**1905** [**Robert Koch**](https://en.wikipedia.org/wiki/Robert_Koch)** [Germany](https://en.wikipedia.org/wiki/German_Empire%22%20%5Co%20%22German%20Empire)"for his investigations and discoveries in relation to**[**tuberculosis**](https://en.wikipedia.org/wiki/Tuberculosis)"[[17]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1905-17)

1906 [Camillo Golgi](https://en.wikipedia.org/wiki/Camillo_Golgi) [Italy](https://en.wikipedia.org/wiki/Kingdom_of_Italy%22%20%5Co%20%22Kingdom%20of%20Italy)"in recognition of their work on the structure of the [nervous system](https://en.wikipedia.org/wiki/Nervous_system)"[[18]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1906-18)

1906 [Santiago Ramón y Cajal](https://en.wikipedia.org/wiki/Santiago_Ram%C3%B3n_y_Cajal) [Spain](https://en.wikipedia.org/wiki/Restoration_%28Spain%29%22%20%5Co%20%22Restoration%20%28Spain%29)"in recognition of their work on the structure of the [nervous system](https://en.wikipedia.org/wiki/Nervous_system)"[[18]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1906-18)

1907 [Charles Louis Alphonse Laveran](https://en.wikipedia.org/wiki/Charles_Louis_Alphonse_Laveran) [France](https://en.wikipedia.org/wiki/France%22%20%5Co%20%22France)"in recognition of his work on the role played by [protozoa](https://en.wikipedia.org/wiki/Protozoa) in causing diseases"[[19]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1907-19)

1908 [Ilya Ilyich Mechnikov](https://en.wikipedia.org/wiki/%C3%89lie_Metchnikoff) [Russia](https://en.wikipedia.org/wiki/Russian_Empire%22%20%5Co%20%22Russian%20Empire)"in recognition of their work on [immunity](https://en.wikipedia.org/wiki/Immune_system)"[[20]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1908-20)

1908 [Paul Ehrlich](https://en.wikipedia.org/wiki/Paul_Ehrlich) [Germany](https://en.wikipedia.org/wiki/German_Empire%22%20%5Co%20%22German%20Empire)"in recognition of their work on [immunity](https://en.wikipedia.org/wiki/Immune_system)"[[20]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1908-20)

1909 [Emil Theodor Kocher](https://en.wikipedia.org/wiki/Emil_Theodor_Kocher)  [Switzerland](https://en.wikipedia.org/wiki/Switzerland%22%20%5Co%20%22Switzerland)"for his work on the physiology, pathology and surgery of the [thyroid gland](https://en.wikipedia.org/wiki/Thyroid_gland)"[[21]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1909-21)

1910 [Albrecht Kossel](https://en.wikipedia.org/wiki/Albrecht_Kossel) [Germany](https://en.wikipedia.org/wiki/German_Empire%22%20%5Co%20%22German%20Empire)"in recognition of the contributions to our knowledge of [cell chemistry](https://en.wikipedia.org/wiki/Cell_biology) made through his work on [proteins](https://en.wikipedia.org/wiki/Protein), including the [nucleic substances](https://en.wikipedia.org/wiki/Nucleic_acid)"[[22]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1910-22)

1911[Allvar Gullstrand](https://en.wikipedia.org/wiki/Allvar_Gullstrand) [Sweden](https://en.wikipedia.org/wiki/Sweden%22%20%5Co%20%22Sweden)"for his work on the [dioptrics](https://en.wikipedia.org/wiki/Dioptrics%22%20%5Co%20%22Dioptrics) of the [eye](https://en.wikipedia.org/wiki/Human_eye)"[[23]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1911-23)

1912 [Alexis Carrel](https://en.wikipedia.org/wiki/Alexis_Carrel) [France](https://en.wikipedia.org/wiki/France)"[for] his work on vascular [suture](https://en.wikipedia.org/wiki/Surgical_suture) and the [transplantation](https://en.wikipedia.org/wiki/Organ_transplantation) of [blood vessels](https://en.wikipedia.org/wiki/Blood_vessel) and [organs](https://en.wikipedia.org/wiki/Organ_%28anatomy%29)"[[24]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1912-24)

1913 [Charles Richet](https://en.wikipedia.org/wiki/Charles_Richet) [France](https://en.wikipedia.org/wiki/France)"[for] his work on [anaphylaxis](https://en.wikipedia.org/wiki/Anaphylaxis)"[[25]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1913-25)

1914 [Robert Bárány](https://en.wikipedia.org/wiki/Robert_B%C3%A1r%C3%A1ny) [Austria-Hungary](https://en.wikipedia.org/wiki/Austria-Hungary)"for his work on the physiology and pathology of the [vestibular apparatus](https://en.wikipedia.org/wiki/Vestibular_apparatus)"[[8]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1914-8)

1915 *Not awarded*

1916 *Not awarded*

1917 *Not awarded*

1918 *Not awarded*

1919 [Jules Bordet](https://en.wikipedia.org/wiki/Jules_Bordet) [Belgium](https://en.wikipedia.org/wiki/Belgium%22%20%5Co%20%22Belgium)"for his discoveries relating to [immunity](https://en.wikipedia.org/wiki/Immune_system)"[[26]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1919-26)

1920 [Schack August Steenberg Krogh](https://en.wikipedia.org/wiki/August_Krogh) [Denmark](https://en.wikipedia.org/wiki/Denmark%22%20%5Co%20%22Denmark)"for his discovery of the capillary motor regulating mechanism"[[27]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1920-27)

1921*Not awarded*

192 2 [Archibald Vivian Hill](https://en.wikipedia.org/wiki/Archibald_Hill) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for his discovery relating to the production of heat in the [muscle](https://en.wikipedia.org/wiki/Muscle)"[[9]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1922-9)

1922 [Otto Fritz Meyerhof](https://en.wikipedia.org/wiki/Otto_Fritz_Meyerhof) [Germany](https://en.wikipedia.org/wiki/Germany%22%20%5Co%20%22Germany)"for his discovery of the fixed relationship between the consumption of [oxygen](https://en.wikipedia.org/wiki/Oxygen) and the [metabolism](https://en.wikipedia.org/wiki/Metabolism) of [lactic acid](https://en.wikipedia.org/wiki/Lactic_acid) in the muscle"[[9]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1922-9)

**1923 Sir**[**Frederick Grant Banting**](https://en.wikipedia.org/wiki/Frederick_Banting)** [Canada](https://en.wikipedia.org/wiki/Canada%22%20%5Co%20%22Canada)"for the discovery of**[**insulin**](https://en.wikipedia.org/wiki/Insulin)**"**[**[28]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1923-28)

**1923** [**John James Rickard Macleod**](https://en.wikipedia.org/wiki/John_James_Rickard_Macleod)****[**United Kingdom**](https://en.wikipedia.org/wiki/United_Kingdom)**"for the discovery of**[**insulin**](https://en.wikipedia.org/wiki/Insulin)**"**[**[28]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1923-28)

1924[Willem Einthoven](https://en.wikipedia.org/wiki/Willem_Einthoven) [Netherlands](https://en.wikipedia.org/wiki/Netherlands%22%20%5Co%20%22Netherlands)"for the discovery of the mechanism of the [electrocardiogram](https://en.wikipedia.org/wiki/Electrocardiogram)"[[29]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1924-29)

1925 *Not awarded*

1926 [Johannes Andreas Grib Fibiger](https://en.wikipedia.org/wiki/Johannes_Andreas_Grib_Fibiger) [Denmark](https://en.wikipedia.org/wiki/Denmark%22%20%5Co%20%22Denmark)"for his discovery of the [Spiroptera carcinoma](https://en.wikipedia.org/wiki/Spiroptera_carcinoma%22%20%5Co%20%22Spiroptera%20carcinoma)"[[10]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1926-10)

1927[Julius Wagner-Jauregg](https://en.wikipedia.org/wiki/Julius_Wagner-Jauregg) [Austria](https://en.wikipedia.org/wiki/Austria%22%20%5Co%20%22Austria)"for his discovery of the therapeutic value of [malaria](https://en.wikipedia.org/wiki/Malaria) [inoculation](https://en.wikipedia.org/wiki/Inoculation) in the treatment of [dementia paralytica](https://en.wikipedia.org/wiki/General_paresis_of_the_insane)"[[30]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1927-30)

1928 [Charles Jules Henri Nicolle](https://en.wikipedia.org/wiki/Charles_Nicolle) [France](https://en.wikipedia.org/wiki/France%22%20%5Co%20%22France)"for his work on [typhus](https://en.wikipedia.org/wiki/Typhus)"[[31]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1928-31)

1929 [Christiaan Eijkman](https://en.wikipedia.org/wiki/Christiaan_Eijkman) [Netherlands](https://en.wikipedia.org/wiki/Netherlands%22%20%5Co%20%22Netherlands)"for his discovery of the antineuritic [vitamin](https://en.wikipedia.org/wiki/Vitamin)"[[32]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1929-32)

1929 Sir [Frederick Gowland Hopkins](https://en.wikipedia.org/wiki/Frederick_Gowland_Hopkins) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for his discovery of the growth-stimulating [vitamins](https://en.wikipedia.org/wiki/Vitamin)"[[32]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1929-32)

**1930** [**Karl Landsteiner**](https://en.wikipedia.org/wiki/Karl_Landsteiner)** [Austria](https://en.wikipedia.org/wiki/Austria%22%20%5Co%20%22Austria)"for his discovery of human**[**blood groups**](https://en.wikipedia.org/wiki/ABO_blood_group_system)"[[33]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1930-33)

1931[Otto Heinrich Warburg](https://en.wikipedia.org/wiki/Otto_Heinrich_Warburg) [Germany](https://en.wikipedia.org/wiki/Germany%22%20%5Co%20%22Germany)"for his discovery of the nature and mode of action of the [respiratory enzyme](https://en.wikipedia.org/wiki/Cytochrome)"[[34]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1931-34)

1932 Sir [Charles Scott Sherrington](https://en.wikipedia.org/wiki/Charles_Scott_Sherrington) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for their discoveries regarding the functions of [neurons](https://en.wikipedia.org/wiki/Neuron)"[[35]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1932-35)

1932 [Edgar Douglas Adrian](https://en.wikipedia.org/wiki/Edgar_Adrian%2C_1st_Baron_Adrian) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for their discoveries regarding the functions of [neurons](https://en.wikipedia.org/wiki/Neuron)"[[35]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1932-35)

**1933** [**Thomas Hunt Morgan**](https://en.wikipedia.org/wiki/Thomas_Hunt_Morgan)****[**United States**](https://en.wikipedia.org/wiki/United_States)**"for his discoveries concerning the role played by the**[**chromosome**](https://en.wikipedia.org/wiki/Chromosome)**in**[**heredity**](https://en.wikipedia.org/wiki/Heredity)"[[36]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1933-36)

1934 [George Hoyt Whipple](https://en.wikipedia.org/wiki/George_Whipple) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning [liver](https://en.wikipedia.org/wiki/Liver) therapy in cases of [anaemia](https://en.wikipedia.org/wiki/Anaemia%22%20%5Co%20%22Anaemia)"[[37]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1934-37)

1934 [George Richards Minot](https://en.wikipedia.org/wiki/George_Minot) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning [liver](https://en.wikipedia.org/wiki/Liver) therapy in cases of [anaemia](https://en.wikipedia.org/wiki/Anaemia%22%20%5Co%20%22Anaemia)"[[37]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1934-37)

1934 [William Parry Murphy](https://en.wikipedia.org/wiki/William_P._Murphy) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning [liver](https://en.wikipedia.org/wiki/Liver) therapy in cases of [anaemia](https://en.wikipedia.org/wiki/Anaemia%22%20%5Co%20%22Anaemia)"[[37]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1934-37)

1935 [Hans Spemann](https://en.wikipedia.org/wiki/Hans_Spemann%22%20%5Co%20%22Hans%20Spemann) [Germany](https://en.wikipedia.org/wiki/Nazi_Germany%22%20%5Co%20%22Nazi%20Germany)"for his discovery of the organizer effect in [embryonic development](https://en.wikipedia.org/wiki/Embryonic_development)"[[38]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1935-38)

1936 Sir [Henry Hallett Dale](https://en.wikipedia.org/wiki/Henry_Hallett_Dale) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for their discoveries relating to [chemical transmission of nerve impulses](https://en.wikipedia.org/wiki/Neurotransmitter)"[[39]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1936-39)

1936 [Otto Loewi](https://en.wikipedia.org/wiki/Otto_Loewi) [Austria](https://en.wikipedia.org/wiki/Austria)  [Germany](https://en.wikipedia.org/wiki/Nazi_Germany%22%20%5Co%20%22Nazi%20Germany)"for their discoveries relating to [chemical transmission of nerve impulses](https://en.wikipedia.org/wiki/Neurotransmitter)"[[39]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1936-39)

1937 [Albert Szent-Györgyi von Nagyrapolt](https://en.wikipedia.org/wiki/Albert_Szent-Gy%C3%B6rgyi) [Hungary](https://en.wikipedia.org/wiki/Hungary%22%20%5Co%20%22Hungary)"for his discoveries in connection with the [biological combustion processes](https://en.wikipedia.org/wiki/Cellular_respiration), with special reference to [vitamin C](https://en.wikipedia.org/wiki/Vitamin_C) and the catalysis of [fumaric acid](https://en.wikipedia.org/wiki/Fumaric_acid%22%20%5Co%20%22Fumaric%20acid)"[[40]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1937-40)

1938 [Corneille Jean François Heymans](https://en.wikipedia.org/wiki/Corneille_Heymans) [Belgium](https://en.wikipedia.org/wiki/Belgium%22%20%5Co%20%22Belgium)"for the discovery of the role played by the [sinus](https://en.wikipedia.org/wiki/Paranasal_sinuses) and [aortic mechanisms](https://en.wikipedia.org/wiki/Aorta) in the regulation of [respiration](https://en.wikipedia.org/wiki/Respiration_%28physiology%29)"[[11]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1938-11)

1939 [Gerhard Domagk](https://en.wikipedia.org/wiki/Gerhard_Domagk) [Germany](https://en.wikipedia.org/wiki/Nazi_Germany%22%20%5Co%20%22Nazi%20Germany)"for the discovery of the [antibacterial](https://en.wikipedia.org/wiki/Antibacterial) effects of [prontosil](https://en.wikipedia.org/wiki/Prontosil%22%20%5Co%20%22Prontosil)"[[41]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1939-41)

19 40 *Not awarded*

1941 *Not awarded*

194 2*Not awarded*

1943 [Carl Peter Henrik Dam](https://en.wikipedia.org/wiki/Henrik_Dam) [Denmark](https://en.wikipedia.org/wiki/Denmark%22%20%5Co%20%22Denmark)"for his discovery of [vitamin K](https://en.wikipedia.org/wiki/Vitamin_K)"[[12]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1943-12)

1943 [Edward Adelbert Doisy](https://en.wikipedia.org/wiki/Edward_Adelbert_Doisy) [United States](https://en.wikipedia.org/wiki/United_States)"for his discovery of the chemical nature of [vitamin K](https://en.wikipedia.org/wiki/Vitamin_K)"[[12]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1943-12)

1944 [Joseph Erlanger](https://en.wikipedia.org/wiki/Joseph_Erlanger) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries relating to the highly differentiated functions of single [nerve fibres](https://en.wikipedia.org/wiki/Nerve_fibre)"[[42]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1944-42)

1944 [Herbert Spencer Gasser](https://en.wikipedia.org/wiki/Herbert_Spencer_Gasser) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries relating to the highly differentiated functions of single [nerve fibres](https://en.wikipedia.org/wiki/Nerve_fibre)"[[42]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1944-42)

**1945 Sir**[**Alexander Fleming**](https://en.wikipedia.org/wiki/Alexander_Fleming)****[**United Kingdom**](https://en.wikipedia.org/wiki/United_Kingdom)**"for the discovery of**[**penicillin**](https://en.wikipedia.org/wiki/Penicillin)**and its curative effect in various**[**infectious diseases**](https://en.wikipedia.org/wiki/Infectious_disease)"[[43]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1945-43)

**1945 Sir**[**Ernst Boris Chain**](https://en.wikipedia.org/wiki/Ernst_Boris_Chain)****[**United Kingdom**](https://en.wikipedia.org/wiki/United_Kingdom)**"for the discovery of**[**penicillin**](https://en.wikipedia.org/wiki/Penicillin)**and its curative effect in various**[**infectious diseases**](https://en.wikipedia.org/wiki/Infectious_disease)"[[43]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1945-43)

1945 [Howard Walter Florey](https://en.wikipedia.org/wiki/Howard_Florey) [Australia](https://en.wikipedia.org/wiki/Australia%22%20%5Co%20%22Australia)"for the discovery of [penicillin](https://en.wikipedia.org/wiki/Penicillin) and its curative effect in various [infectious diseases](https://en.wikipedia.org/wiki/Infectious_disease)"[[43]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1945-43)

1946 [Hermann Joseph Muller](https://en.wikipedia.org/wiki/Hermann_Joseph_Muller) [United States](https://en.wikipedia.org/wiki/United_States)"for the discovery of the production of [mutations](https://en.wikipedia.org/wiki/Mutation) by means of [X-ray](https://en.wikipedia.org/wiki/X-ray) [irradiation](https://en.wikipedia.org/wiki/Irradiation)"[[44]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1946-44)

1947 [Carl Ferdinand Cori](https://en.wikipedia.org/wiki/Carl_Ferdinand_Cori) [United States](https://en.wikipedia.org/wiki/United_States)"for their discovery of the course of the catalytic conversion of [glycogen](https://en.wikipedia.org/wiki/Glycogen)"[[45]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1947-45)

1947 [Gerty Theresa Cori, née Radnitz](https://en.wikipedia.org/wiki/Gerty_Cori) [United States](https://en.wikipedia.org/wiki/United_States)"for their discovery of the course of the catalytic conversion of [glycogen](https://en.wikipedia.org/wiki/Glycogen)"[[45]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1947-45)

1947 [Bernardo Alberto Houssay](https://en.wikipedia.org/wiki/Bernardo_Houssay) [Argentina](https://en.wikipedia.org/wiki/Argentina%22%20%5Co%20%22Argentina)"for his discovery of the part played by the [hormone](https://en.wikipedia.org/wiki/Hormone) of the [anterior pituitary](https://en.wikipedia.org/wiki/Anterior_pituitary) lobe in the metabolism of [sugar](https://en.wikipedia.org/wiki/Glucose)"[[45]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1947-45)

1948 [Paul Hermann Müller](https://en.wikipedia.org/wiki/Paul_Hermann_M%C3%BCller)  [Switzerland](https://en.wikipedia.org/wiki/Switzerland%22%20%5Co%20%22Switzerland)"for his discovery of the high efficiency of [DDT](https://en.wikipedia.org/wiki/DDT) as a contact [poison against several arthropods](https://en.wikipedia.org/wiki/Insecticide)"[[46]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1948-46)

1949 [Walter Rudolf Hess](https://en.wikipedia.org/wiki/Walter_Rudolf_Hess)  [Switzerland](https://en.wikipedia.org/wiki/Switzerland%22%20%5Co%20%22Switzerland)"for his discovery of the functional organization of the [interbrain](https://en.wikipedia.org/wiki/Midbrain) as a coordinator of the activities of the internal organs"[[47]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1949-47)

1949 [António Caetano Egas Moniz](https://en.wikipedia.org/wiki/Ant%C3%B3nio_Egas_Moniz) [Portugal](https://en.wikipedia.org/wiki/Portugal%22%20%5Co%20%22Portugal)"for his discovery of the therapeutic value of leucotomy ([lobotomy](https://en.wikipedia.org/wiki/Lobotomy)) in certain psychoses"[[47]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1949-47)

1950 [Philip Showalter Hench](https://en.wikipedia.org/wiki/Philip_Showalter_Hench) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries relating to the [hormones](https://en.wikipedia.org/wiki/Hormone) of the [adrenal cortex](https://en.wikipedia.org/wiki/Adrenal_cortex), their structure and biological effects"[[48]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1950-48)

1950 [Edward Calvin Kendall](https://en.wikipedia.org/wiki/Edward_Calvin_Kendall) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries relating to the [hormones](https://en.wikipedia.org/wiki/Hormone) of the [adrenal cortex](https://en.wikipedia.org/wiki/Adrenal_cortex), their structure and biological effects"[[48]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1950-48)

1950 [Tadeusz Reichstein](https://en.wikipedia.org/wiki/Tadeus_Reichstein)  [Switzerland](https://en.wikipedia.org/wiki/Switzerland)  [Poland](https://en.wikipedia.org/wiki/Poland%22%20%5Co%20%22Poland)"for their discoveries relating to the [hormones](https://en.wikipedia.org/wiki/Hormone) of the [adrenal cortex](https://en.wikipedia.org/wiki/Adrenal_cortex), their structure and biological effects"[[48]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1950-48)

1951[Max Theiler](https://en.wikipedia.org/wiki/Max_Theiler) [South Africa](https://en.wikipedia.org/wiki/South_Africa)  [United States](https://en.wikipedia.org/wiki/United_States) "for his discoveries concerning [yellow fever](https://en.wikipedia.org/wiki/Yellow_fever) and how to combat it"[[49]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1951-49)

1952 [Selman Abraham Waksman](https://en.wikipedia.org/wiki/Selman_Waksman) [United States](https://en.wikipedia.org/wiki/United_States)"for his discovery of [streptomycin](https://en.wikipedia.org/wiki/Streptomycin), the first [antibiotic](https://en.wikipedia.org/wiki/Antibiotic) effective against [tuberculosis](https://en.wikipedia.org/wiki/Tuberculosis)"[[50]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1952-50)

**1953 Sir**[**Hans Adolf Krebs**](https://en.wikipedia.org/wiki/Hans_Adolf_Krebs)****[**United Kingdom**](https://en.wikipedia.org/wiki/United_Kingdom)**"for his discovery of the**[**citric acid cycle**](https://en.wikipedia.org/wiki/Citric_acid_cycle)"[[51]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1953-51)

1953 [Fritz Albert Lipmann](https://en.wikipedia.org/wiki/Fritz_Albert_Lipmann) [United States](https://en.wikipedia.org/wiki/United_States)  [Germany](https://en.wikipedia.org/wiki/Germany%22%20%5Co%20%22Germany)"for his discovery of [co-enzyme A](https://en.wikipedia.org/wiki/Coenzyme_A) and its importance for intermediary metabolism"[[51]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1953-51)

1954 [John Franklin Enders](https://en.wikipedia.org/wiki/John_Franklin_Enders) [United States](https://en.wikipedia.org/wiki/United_States)"for their discovery of the ability of [poliomyelitis](https://en.wikipedia.org/wiki/Poliomyelitis) [viruses](https://en.wikipedia.org/wiki/Virus) to grow in cultures of various types of tissue"[[52]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1954-52)

1954 [Frederick Chapman Robbins](https://en.wikipedia.org/wiki/Frederick_Chapman_Robbins) [United States](https://en.wikipedia.org/wiki/United_States)"for their discovery of the ability of [poliomyelitis](https://en.wikipedia.org/wiki/Poliomyelitis) [viruses](https://en.wikipedia.org/wiki/Virus) to grow in cultures of various types of tissue"[[52]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1954-52)

1954 [Thomas Huckle Weller](https://en.wikipedia.org/wiki/Thomas_Huckle_Weller) [United States](https://en.wikipedia.org/wiki/United_States)"for their discovery of the ability of [poliomyelitis](https://en.wikipedia.org/wiki/Poliomyelitis) [viruses](https://en.wikipedia.org/wiki/Virus) to grow in cultures of various types of tissue"[[52]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1954-52)

1955 [Axel Hugo Theodor Theorell](https://en.wikipedia.org/wiki/Hugo_Theorell) [Sweden](https://en.wikipedia.org/wiki/Sweden%22%20%5Co%20%22Sweden)"for his discoveries concerning the nature and mode of action of oxidation enzymes"[[53]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1955-53)

1956 [André Frédéric Cournand](https://en.wikipedia.org/wiki/Andr%C3%A9_Fr%C3%A9d%C3%A9ric_Cournand) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning [heart catheterization](https://en.wikipedia.org/wiki/Heart_catheterization) and pathological changes in the [circulatory system](https://en.wikipedia.org/wiki/Circulatory_system)"[[54]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1956-54)

1956 [Werner Forssmann](https://en.wikipedia.org/wiki/Werner_Forssmann) [West Germany](https://en.wikipedia.org/wiki/West_Germany)"for their discoveries concerning [heart catheterization](https://en.wikipedia.org/wiki/Heart_catheterization) and pathological changes in the [circulatory system](https://en.wikipedia.org/wiki/Circulatory_system)"[[54]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1956-54)

1956 [Dickinson W. Richards](https://en.wikipedia.org/wiki/Dickinson_W._Richards) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning [heart catheterization](https://en.wikipedia.org/wiki/Heart_catheterization) and pathological changes in the [circulatory system](https://en.wikipedia.org/wiki/Circulatory_system)"[[54]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1956-54)

1957 [Daniel Bovet](https://en.wikipedia.org/wiki/Daniel_Bovet) [Italy](https://en.wikipedia.org/wiki/Italy%22%20%5Co%20%22Italy)"for his discoveries relating to [synthetic compounds that inhibit the action of certain body substances](https://en.wikipedia.org/wiki/Antihistamine), and especially their action on the vascular system and the skeletal muscles"[[55]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1957-55)

1958 [George Wells Beadle](https://en.wikipedia.org/wiki/George_Wells_Beadle) [United States](https://en.wikipedia.org/wiki/United_States)"for their discovery that [genes](https://en.wikipedia.org/wiki/Gene) act by regulating definite chemical events"[[56]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1958-56)

1958 [Edward Lawrie Tatum](https://en.wikipedia.org/wiki/Edward_Lawrie_Tatum) [United States](https://en.wikipedia.org/wiki/United_States)"for their discovery that [genes](https://en.wikipedia.org/wiki/Gene) act by regulating definite chemical events"[[56]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1958-56)

1958 [Joshua Lederberg](https://en.wikipedia.org/wiki/Joshua_Lederberg) [United States](https://en.wikipedia.org/wiki/United_States)"for his discoveries concerning [genetic recombination](https://en.wikipedia.org/wiki/Genetic_recombination) and the organization of the [genetic material](https://en.wikipedia.org/wiki/Gene) of [bacteria](https://en.wikipedia.org/wiki/Bacteria)"[[56]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1958-56)

1959 [Arthur Kornberg](https://en.wikipedia.org/wiki/Arthur_Kornberg) [United States](https://en.wikipedia.org/wiki/United_States)"for their discovery of the mechanisms in the biological synthesis of [ribonucleic acid](https://en.wikipedia.org/wiki/Ribonucleic_acid) and [deoxyribonucleic acid](https://en.wikipedia.org/wiki/Deoxyribonucleic_acid)"[[57]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1959-57)

1959 [Severo Ochoa](https://en.wikipedia.org/wiki/Severo_Ochoa) [Spain](https://en.wikipedia.org/wiki/Francoist_Spain)  [United States](https://en.wikipedia.org/wiki/United_States)"for their discovery of the mechanisms in the biological synthesis of [ribonucleic acid](https://en.wikipedia.org/wiki/Ribonucleic_acid) and [deoxyribonucleic acid](https://en.wikipedia.org/wiki/Deoxyribonucleic_acid)"[[57]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1959-57)

1960 Sir [Frank Macfarlane Burnet](https://en.wikipedia.org/wiki/Frank_Macfarlane_Burnet) [Australia](https://en.wikipedia.org/wiki/Australia%22%20%5Co%20%22Australia)"for discovery of acquired [immunological tolerance](https://en.wikipedia.org/wiki/Immune_tolerance)"[[58]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1960-58)

1960 Sir [Peter Brian Medawar](https://en.wikipedia.org/wiki/Peter_Medawar) [Brazil](https://en.wikipedia.org/wiki/Brazil)  [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for discovery of acquired [immunological tolerance](https://en.wikipedia.org/wiki/Immune_tolerance)"[[58]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1960-58)

1961[Georg von Békésy](https://en.wikipedia.org/wiki/Georg_von_B%C3%A9k%C3%A9sy) [United States](https://en.wikipedia.org/wiki/United_States)  [Hungary](https://en.wikipedia.org/wiki/Hungary%22%20%5Co%20%22Hungary)"for his discoveries of the physical mechanism of stimulation within the [cochlea](https://en.wikipedia.org/wiki/Cochlea)"[[59]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1961-59)

**1962** [**Francis Harry Compton Crick**](https://en.wikipedia.org/wiki/Francis_Crick)****[**United Kingdom**](https://en.wikipedia.org/wiki/United_Kingdom)**"for their discoveries concerning the molecular structure of**[**nucleic acids**](https://en.wikipedia.org/wiki/Nucleic_acid)**and its significance for information transfer in living material"**[**[60]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1962-60)

**1962** [**James Dewey Watson**](https://en.wikipedia.org/wiki/James_D._Watson)****[**United States**](https://en.wikipedia.org/wiki/United_States)**"for their discoveries concerning the molecular structure of**[**nucleic acids**](https://en.wikipedia.org/wiki/Nucleic_acid)**and its significance for information transfer in living material"**[**[60]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1962-60)

1962 [Maurice Hugh Frederick Wilkins](https://en.wikipedia.org/wiki/Maurice_Wilkins) [New Zealand](https://en.wikipedia.org/wiki/New_Zealand)  [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for their discoveries concerning the molecular structure of [nucleic acids](https://en.wikipedia.org/wiki/Nucleic_acid) and its significance for information transfer in living material"[[60]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1962-60)

1963 Sir [John Carew Eccles](https://en.wikipedia.org/wiki/John_Eccles_%28neurophysiologist%29) [Australia](https://en.wikipedia.org/wiki/Australia%22%20%5Co%20%22Australia)"for their discoveries concerning the ionic mechanisms involved in excitation and inhibition in the peripheral and central portions of the [nerve](https://en.wikipedia.org/wiki/Nerve) [cell membrane](https://en.wikipedia.org/wiki/Cell_membrane)"[[61]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1963-61)

1963 Sir [Alan Lloyd Hodgkin](https://en.wikipedia.org/wiki/Alan_Lloyd_Hodgkin) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for their discoveries concerning the ionic mechanisms involved in excitation and inhibition in the peripheral and central portions of the [nerve](https://en.wikipedia.org/wiki/Nerve) [cell membrane](https://en.wikipedia.org/wiki/Cell_membrane)"[[61]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1963-61)

1963 Sir [Andrew Fielding Huxley](https://en.wikipedia.org/wiki/Andrew_Huxley) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for their discoveries concerning the ionic mechanisms involved in excitation and inhibition in the peripheral and central portions of the [nerve](https://en.wikipedia.org/wiki/Nerve) [cell membrane](https://en.wikipedia.org/wiki/Cell_membrane)"[[61]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1963-61)

1964 [Konrad Bloch](https://en.wikipedia.org/wiki/Konrad_Emil_Bloch) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning the mechanism and regulation of the [cholesterol](https://en.wikipedia.org/wiki/Cholesterol) and [fatty acid](https://en.wikipedia.org/wiki/Fatty_acid) [metabolism](https://en.wikipedia.org/wiki/Metabolism)"[[62]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1964-62)

1964 [Feodor Lynen](https://en.wikipedia.org/wiki/Feodor_Felix_Konrad_Lynen) [West Germany](https://en.wikipedia.org/wiki/West_Germany)"for their discoveries concerning the mechanism and regulation of the [cholesterol](https://en.wikipedia.org/wiki/Cholesterol) and [fatty acid](https://en.wikipedia.org/wiki/Fatty_acid) [metabolism](https://en.wikipedia.org/wiki/Metabolism)"[[62]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1964-62)

1965 [François Jacob](https://en.wikipedia.org/wiki/Fran%C3%A7ois_Jacob) [France](https://en.wikipedia.org/wiki/France%22%20%5Co%20%22France)"for their discoveries concerning [genetic control of enzyme](https://en.wikipedia.org/wiki/Transcription_%28genetics%29) and [virus synthesis](https://en.wikipedia.org/wiki/Provirus)"[[63]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1965-63)

1965 [André Lwoff](https://en.wikipedia.org/wiki/Andr%C3%A9_Michel_Lwoff) [France](https://en.wikipedia.org/wiki/France%22%20%5Co%20%22France)"for their discoveries concerning [genetic control of enzyme](https://en.wikipedia.org/wiki/Transcription_%28genetics%29) and [virus synthesis](https://en.wikipedia.org/wiki/Provirus)"[[63]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1965-63)

1965 [Jacques Monod](https://en.wikipedia.org/wiki/Jacques_Monod) [France](https://en.wikipedia.org/wiki/France%22%20%5Co%20%22France)"for their discoveries concerning [genetic control of enzyme](https://en.wikipedia.org/wiki/Transcription_%28genetics%29) and [virus synthesis](https://en.wikipedia.org/wiki/Provirus)"[[63]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1965-63)

**1966** [**Peyton Rous**](https://en.wikipedia.org/wiki/Francis_Peyton_Rous)****[**United States**](https://en.wikipedia.org/wiki/United_States)**"for his discovery of [tumour](https://en.wikipedia.org/wiki/Tumour%22%20%5Co%20%22Tumour)-inducing**[**viruses**](https://en.wikipedia.org/wiki/Virus)**"**[**[64]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1966-64)

1966 [Charles Brenton Huggins](https://en.wikipedia.org/wiki/Charles_Brenton_Huggins) [United States](https://en.wikipedia.org/wiki/United_States)"for his discoveries concerning [hormonal treatment](https://en.wikipedia.org/wiki/Hormonal_therapy_%28oncology%29) of [prostatic cancer](https://en.wikipedia.org/wiki/Prostatic_cancer)"[[64]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1966-64)

1967 [Ragnar Granit](https://en.wikipedia.org/wiki/Ragnar_Granit) [Finland](https://en.wikipedia.org/wiki/Finland)  [Sweden](https://en.wikipedia.org/wiki/Sweden%22%20%5Co%20%22Sweden)"for their discoveries concerning the primary physiological and chemical visual processes in the [eye](https://en.wikipedia.org/wiki/Human_eye)"[[65]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1967-65)

1967 [Haldan Keffer Hartline](https://en.wikipedia.org/wiki/Haldan_Keffer_Hartline) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning the primary physiological and chemical visual processes in the [eye](https://en.wikipedia.org/wiki/Human_eye)"[[65]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1967-65)

1967 [George Wald](https://en.wikipedia.org/wiki/George_Wald) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning the primary physiological and chemical visual processes in the [eye](https://en.wikipedia.org/wiki/Human_eye)"[[65]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1967-65)

1968 [Robert W. Holley](https://en.wikipedia.org/wiki/Robert_W._Holley) [United States](https://en.wikipedia.org/wiki/United_States)"for their interpretation of the [genetic code](https://en.wikipedia.org/wiki/Genetic_code) and its function in [protein synthesis](https://en.wikipedia.org/wiki/Protein_biosynthesis)"[[66]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1968-66)

1968 [Har Gobind Khorana](https://en.wikipedia.org/wiki/Har_Gobind_Khorana) [India](https://en.wikipedia.org/wiki/India)  [United States](https://en.wikipedia.org/wiki/United_States)[[67]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-67)"for their interpretation of the [genetic code](https://en.wikipedia.org/wiki/Genetic_code) and its function in [protein synthesis](https://en.wikipedia.org/wiki/Protein_biosynthesis)"[[66]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1968-66)

1968 [Marshall W. Nirenberg](https://en.wikipedia.org/wiki/Marshall_Warren_Nirenberg) [United States](https://en.wikipedia.org/wiki/United_States)"for their interpretation of the [genetic code](https://en.wikipedia.org/wiki/Genetic_code) and its function in [protein synthesis](https://en.wikipedia.org/wiki/Protein_biosynthesis)"[[66]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1968-66)

1969 [Max Delbrück](https://en.wikipedia.org/wiki/Max_Delbr%C3%BCck) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning the replication mechanism and the genetic structure of [viruses](https://en.wikipedia.org/wiki/Virus)"[[68]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1969-68)

1969 [Alfred D. Hershey](https://en.wikipedia.org/wiki/Alfred_Hershey) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning the replication mechanism and the genetic structure of [viruses](https://en.wikipedia.org/wiki/Virus)"[[68]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1969-68)

1969 [Salvador E. Luria](https://en.wikipedia.org/wiki/Salvador_Luria) [Italy](https://en.wikipedia.org/wiki/Italy)  [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning the replication mechanism and the genetic structure of [viruses](https://en.wikipedia.org/wiki/Virus)"[[68]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1969-68)

1970 [Julius Axelrod](https://en.wikipedia.org/wiki/Julius_Axelrod) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning the humoral [transmittors in the nerve terminals](https://en.wikipedia.org/wiki/Neurotransmitter%22%20%5Co%20%22Neurotransmitter) and the mechanism for their storage, release and inactivation"[[69]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1970-69)

1970 [Ulf von Euler](https://en.wikipedia.org/wiki/Ulf_von_Euler) [Sweden](https://en.wikipedia.org/wiki/Sweden%22%20%5Co%20%22Sweden)"for their discoveries concerning the humoral [transmittors in the nerve terminals](https://en.wikipedia.org/wiki/Neurotransmitter%22%20%5Co%20%22Neurotransmitter) and the mechanism for their storage, release and inactivation"[[69]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1970-69)

1970 Sir [Bernard Katz](https://en.wikipedia.org/wiki/Bernard_Katz) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for their discoveries concerning the humoral [transmittors in the nerve terminals](https://en.wikipedia.org/wiki/Neurotransmitter%22%20%5Co%20%22Neurotransmitter) and the mechanism for their storage, release and inactivation"[[69]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1970-69)

1971 [Earl W. Sutherland, Jr.](https://en.wikipedia.org/wiki/Earl_Wilbur_Sutherland%2C_Jr.) [United States](https://en.wikipedia.org/wiki/United_States)"for his discoveries concerning the mechanisms of the action of [hormones](https://en.wikipedia.org/wiki/Hormone)"[[70]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1971-70)

1972 [Gerald M. Edelman](https://en.wikipedia.org/wiki/Gerald_Edelman) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning the chemical structure of [antibodies](https://en.wikipedia.org/wiki/Antibodies)"[[71]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1972-71)

1972 [Rodney R. Porter](https://en.wikipedia.org/wiki/Rodney_Robert_Porter) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for their discoveries concerning the chemical structure of [antibodies](https://en.wikipedia.org/wiki/Antibodies)"[[71]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1972-71)

1973 [Karl von Frisch](https://en.wikipedia.org/wiki/Karl_von_Frisch) [West Germany](https://en.wikipedia.org/wiki/West_Germany)"for their discoveries concerning organization and elicitation of individual and social behaviour patterns"[[72]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1973-72)

1973 [Konrad Lorenz](https://en.wikipedia.org/wiki/Konrad_Lorenz) [Austria](https://en.wikipedia.org/wiki/Austria%22%20%5Co%20%22Austria)"for their discoveries concerning organization and elicitation of individual and social behaviour patterns"[[72]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1973-72)

1973 [Nikolaas Tinbergen](https://en.wikipedia.org/wiki/Nikolaas_Tinbergen) [Netherlands](https://en.wikipedia.org/wiki/Netherlands%22%20%5Co%20%22Netherlands)"for their discoveries concerning organization and elicitation of individual and social behaviour patterns"[[72]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1973-72)

1974 [Albert Claude](https://en.wikipedia.org/wiki/Albert_Claude) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning the [structural and functional organization of the cell](https://en.wikipedia.org/wiki/Organelle)"[[73]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1974-73)

1974 [Christian de Duve](https://en.wikipedia.org/wiki/Christian_de_Duve) [Belgium](https://en.wikipedia.org/wiki/Belgium%22%20%5Co%20%22Belgium)"for their discoveries concerning the [structural and functional organization of the cell](https://en.wikipedia.org/wiki/Organelle)"[[73]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1974-73)

1974 [George E. Palade](https://en.wikipedia.org/wiki/George_Emil_Palade) [United States](https://en.wikipedia.org/wiki/United_States)  [Romania](https://en.wikipedia.org/wiki/Romania%22%20%5Co%20%22Romania)"for their discoveries concerning the [structural and functional organization of the cell](https://en.wikipedia.org/wiki/Organelle)"[[73]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1974-73)

1975 [David Baltimore](https://en.wikipedia.org/wiki/David_Baltimore) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning the interaction between [tumour viruses](https://en.wikipedia.org/wiki/Tumor_virus) and the genetic material of the cell"[[74]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1975-74)

1975 [Renato Dulbecco](https://en.wikipedia.org/wiki/Renato_Dulbecco) [Italy](https://en.wikipedia.org/wiki/Italy)  [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning the interaction between [tumour viruses](https://en.wikipedia.org/wiki/Tumor_virus) and the genetic material of the cell"[[74]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1975-74)

1975 [Howard Martin Temin](https://en.wikipedia.org/wiki/Howard_Martin_Temin) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning the interaction between [tumour viruses](https://en.wikipedia.org/wiki/Tumor_virus) and the genetic material of the cell"[[74]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1975-74)

1976 [Baruch S. Blumberg](https://en.wikipedia.org/wiki/Baruch_Samuel_Blumberg) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning new mechanisms for the origin and dissemination of [infectious diseases](https://en.wikipedia.org/wiki/Infectious_disease)"[[75]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1976-75)

1976 [D. Carleton Gajdusek](https://en.wikipedia.org/wiki/Daniel_Carleton_Gajdusek) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning new mechanisms for the origin and dissemination of [infectious diseases](https://en.wikipedia.org/wiki/Infectious_disease)"[[75]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1976-75)

1977 [Roger Guillemin](https://en.wikipedia.org/wiki/Roger_Guillemin) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning the [peptide hormone](https://en.wikipedia.org/wiki/Peptide_hormone) production of the [brain](https://en.wikipedia.org/wiki/Brain)"[[76]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1977-76)

1977 [Andrew V. Schally](https://en.wikipedia.org/wiki/Andrew_Schally) [Canada](https://en.wikipedia.org/wiki/Canada)  [Poland](https://en.wikipedia.org/wiki/Poland)  [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning the [peptide hormone](https://en.wikipedia.org/wiki/Peptide_hormone) production of the [brain](https://en.wikipedia.org/wiki/Brain)"[[76]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1977-76)

1977 [Rosalyn Yalow](https://en.wikipedia.org/wiki/Rosalyn_Sussman_Yalow) [United States](https://en.wikipedia.org/wiki/United_States)"for the development of [radioimmunoassays](https://en.wikipedia.org/wiki/Radioimmunoassay%22%20%5Co%20%22Radioimmunoassay) of [peptide hormones](https://en.wikipedia.org/wiki/Peptide_hormone)"[[76]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1977-76)

**1978** [**Werner Arber**](https://en.wikipedia.org/wiki/Werner_Arber)**  [Switzerland](https://en.wikipedia.org/wiki/Switzerland%22%20%5Co%20%22Switzerland)"for the discovery of**[**restriction enzymes**](https://en.wikipedia.org/wiki/Restriction_enzyme)**and their application to problems of**[**molecular genetics**](https://en.wikipedia.org/wiki/Molecular_genetics)**"**[**[77]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1978-77)

**1978** [**Daniel Nathans**](https://en.wikipedia.org/wiki/Daniel_Nathans)****[**United States**](https://en.wikipedia.org/wiki/United_States)**"for the discovery of**[**restriction enzymes**](https://en.wikipedia.org/wiki/Restriction_enzyme)**and their application to problems of**[**molecular genetics**](https://en.wikipedia.org/wiki/Molecular_genetics)**"**[**[77]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1978-77)

**1978** [**Hamilton O. Smith**](https://en.wikipedia.org/wiki/Hamilton_O._Smith)****[**United States**](https://en.wikipedia.org/wiki/United_States)**"for the discovery of**[**restriction enzymes**](https://en.wikipedia.org/wiki/Restriction_enzyme)**and their application to problems of**[**molecular genetics**](https://en.wikipedia.org/wiki/Molecular_genetics)**"**[**[77]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1978-77)

1979 [Allan M. Cormack](https://en.wikipedia.org/wiki/Allan_McLeod_Cormack) [South Africa](https://en.wikipedia.org/wiki/South_Africa)  [United States](https://en.wikipedia.org/wiki/United_States)"for the development of [computer assisted tomography](https://en.wikipedia.org/wiki/Computer_assisted_tomography)"[[78]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1979-78)

1979 Sir [Godfrey N. Hounsfield](https://en.wikipedia.org/wiki/Godfrey_Hounsfield) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for the development of [computer assisted tomography](https://en.wikipedia.org/wiki/Computer_assisted_tomography)"[[78]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1979-78)

1980 [Baruj Benacerraf](https://en.wikipedia.org/wiki/Baruj_Benacerraf) [Venezuela](https://en.wikipedia.org/wiki/Venezuela)  [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning genetically determined [structures on the cell surface](https://en.wikipedia.org/wiki/Major_histocompatibility_complex) that regulate [immunological reactions](https://en.wikipedia.org/wiki/Immune_system)"[[79]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1980-79)

1980 [Jean Dausset](https://en.wikipedia.org/wiki/Jean_Dausset) [France](https://en.wikipedia.org/wiki/France%22%20%5Co%20%22France)"for their discoveries concerning genetically determined [structures on the cell surface](https://en.wikipedia.org/wiki/Major_histocompatibility_complex) that regulate [immunological reactions](https://en.wikipedia.org/wiki/Immune_system)"[[79]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1980-79)

1980 [George D. Snell](https://en.wikipedia.org/wiki/George_Davis_Snell) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning genetically determined [structures on the cell surface](https://en.wikipedia.org/wiki/Major_histocompatibility_complex) that regulate [immunological reactions](https://en.wikipedia.org/wiki/Immune_system)"[[79]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1980-79)

1981 [Roger W. Sperry](https://en.wikipedia.org/wiki/Roger_Wolcott_Sperry) [United States](https://en.wikipedia.org/wiki/United_States)"for his discoveries concerning the functional specialization of the [cerebral hemispheres](https://en.wikipedia.org/wiki/Cerebral_hemisphere)"[[80]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1981-80)

1981[David H. Hubel](https://en.wikipedia.org/wiki/David_H._Hubel) [Canada](https://en.wikipedia.org/wiki/Canada)  [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning information processing in the [visual system](https://en.wikipedia.org/wiki/Visual_system)"[[80]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1981-80)

1981[Torsten N. Wiesel](https://en.wikipedia.org/wiki/Torsten_Wiesel) [Sweden](https://en.wikipedia.org/wiki/Sweden%22%20%5Co%20%22Sweden)"for their discoveries concerning information processing in the [visual system](https://en.wikipedia.org/wiki/Visual_system)"[[80]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1981-80)

1982 [Sune K. Bergström](https://en.wikipedia.org/wiki/Sune_Bergstr%C3%B6m) [Sweden](https://en.wikipedia.org/wiki/Sweden%22%20%5Co%20%22Sweden)"for their discoveries concerning [prostaglandins](https://en.wikipedia.org/wiki/Prostaglandin) and related biologically active substances"[[81]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1982-81)

198 2[Bengt I. Samuelsson](https://en.wikipedia.org/wiki/Bengt_I._Samuelsson) [Sweden](https://en.wikipedia.org/wiki/Sweden%22%20%5Co%20%22Sweden)"for their discoveries concerning [prostaglandins](https://en.wikipedia.org/wiki/Prostaglandin) and related biologically active substances"[[81]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1982-81)

1982 Sir [John R. Vane](https://en.wikipedia.org/wiki/John_Vane) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for their discoveries concerning [prostaglandins](https://en.wikipedia.org/wiki/Prostaglandin) and related biologically active substances"[[81]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1982-81)

**1983** [**Barbara McClintock**](https://en.wikipedia.org/wiki/Barbara_McClintock)****[**United States**](https://en.wikipedia.org/wiki/United_States)**"for her discovery of**[**mobile genetic elements**](https://en.wikipedia.org/wiki/Transposon)**"**[**[82]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1983-82)

1984 [Niels K. Jerne](https://en.wikipedia.org/wiki/Niels_Kaj_Jerne) [Denmark](https://en.wikipedia.org/wiki/Denmark%22%20%5Co%20%22Denmark)"for theories concerning the specificity in development and control of the [immune system](https://en.wikipedia.org/wiki/Immune_system) and the discovery of the principle for production of [monoclonal antibodies](https://en.wikipedia.org/wiki/Monoclonal_antibodies)"[[83]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1984-83)

1984 [Georges J.F. Köhler](https://en.wikipedia.org/wiki/Georges_J._F._K%C3%B6hler) [West Germany](https://en.wikipedia.org/wiki/West_Germany)"for theories concerning the specificity in development and control of the [immune system](https://en.wikipedia.org/wiki/Immune_system) and the discovery of the principle for production of [monoclonal antibodies](https://en.wikipedia.org/wiki/Monoclonal_antibodies)"[[83]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1984-83)

1984[César Milstein](https://en.wikipedia.org/wiki/C%C3%A9sar_Milstein) [Argentina](https://en.wikipedia.org/wiki/Argentina)  [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for theories concerning the specificity in development and control of the [immune system](https://en.wikipedia.org/wiki/Immune_system) and the discovery of the principle for production of [monoclonal antibodies](https://en.wikipedia.org/wiki/Monoclonal_antibodies)"[[83]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1984-83)

1985 [Michael S. Brown](https://en.wikipedia.org/wiki/Michael_Stuart_Brown) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning the regulation of [cholesterol](https://en.wikipedia.org/wiki/Cholesterol) [metabolism](https://en.wikipedia.org/wiki/Metabolism)"[[84]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1985-84)

1985 [Joseph L. Goldstein](https://en.wikipedia.org/wiki/Joseph_L._Goldstein) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning the regulation of [cholesterol](https://en.wikipedia.org/wiki/Cholesterol) [metabolism](https://en.wikipedia.org/wiki/Metabolism)"[[84]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1985-84)

1986 [Stanley Cohen](https://en.wikipedia.org/wiki/Stanley_Cohen_%28biochemist%29) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries of [growth factors](https://en.wikipedia.org/wiki/Growth_factor)"[[85]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1986-85)

1986 [Rita Levi-Montalcini](https://en.wikipedia.org/wiki/Rita_Levi-Montalcini) [Italy](https://en.wikipedia.org/wiki/Italy%22%20%5Co%20%22Italy)"for their discoveries of [growth factors](https://en.wikipedia.org/wiki/Growth_factor)"[[85]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1986-85)

1987 [Susumu Tonegawa](https://en.wikipedia.org/wiki/Susumu_Tonegawa) [Japan](https://en.wikipedia.org/wiki/Japan%22%20%5Co%20%22Japan)"for his discovery of the genetic principle for generation of [antibody](https://en.wikipedia.org/wiki/Antibody) diversity"[[86]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1987-86)

1988 Sir [James W. Black](https://en.wikipedia.org/wiki/James_Black_%28pharmacologist%29) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for their discoveries of important principles for [drug treatment](https://en.wikipedia.org/wiki/Pharmacology)"[[87]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1988-87)

1988 [Gertrude B. Elion](https://en.wikipedia.org/wiki/Gertrude_B._Elion) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries of important principles for [drug treatment](https://en.wikipedia.org/wiki/Pharmacology)"[[87]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1988-87)

1988 [George H. Hitchings](https://en.wikipedia.org/wiki/George_H._Hitchings) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries of important principles for [drug treatment](https://en.wikipedia.org/wiki/Pharmacology)"[[87]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1988-87)

1989 [J. Michael Bishop](https://en.wikipedia.org/wiki/J._Michael_Bishop) [United States](https://en.wikipedia.org/wiki/United_States)"for their discovery of the cellular origin of [retroviral](https://en.wikipedia.org/wiki/Retrovirus) [oncogenes](https://en.wikipedia.org/wiki/Oncogene)"[[88]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1989-88)

**1989** [**Harold E. Varmus**](https://en.wikipedia.org/wiki/Harold_E._Varmus)****[**United States**](https://en.wikipedia.org/wiki/United_States)**"for their discovery of the cellular origin of** [**retroviral**](https://en.wikipedia.org/wiki/Retrovirus)[**oncogenes**](https://en.wikipedia.org/wiki/Oncogene)**"**[**[88]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1989-88)

1990[Joseph E. Murray](https://en.wikipedia.org/wiki/Joseph_Murray) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning [organ and cell transplantation](https://en.wikipedia.org/wiki/Organ_transplantation) in the treatment of human disease"[[89]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1990-89)

1990[E. Donnall Thomas](https://en.wikipedia.org/wiki/E._Donnall_Thomas) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning [organ and cell transplantation](https://en.wikipedia.org/wiki/Organ_transplantation) in the treatment of human disease"[[89]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1990-89)

1991[Erwin Neher](https://en.wikipedia.org/wiki/Erwin_Neher) [Germany](https://en.wikipedia.org/wiki/Germany%22%20%5Co%20%22Germany)"for their discoveries concerning the function of single [ion channels](https://en.wikipedia.org/wiki/Ion_channel) in cells"[[90]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1991-90)

1991[Bert Sakmann](https://en.wikipedia.org/wiki/Bert_Sakmann) [Germany](https://en.wikipedia.org/wiki/Germany%22%20%5Co%20%22Germany)"for their discoveries concerning the function of single [ion channels](https://en.wikipedia.org/wiki/Ion_channel) in cells"[[90]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1991-90)

1992[Edmond H. Fischer](https://en.wikipedia.org/wiki/Edmond_H._Fischer)  [Switzerland](https://en.wikipedia.org/wiki/Switzerland) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning reversible [protein](https://en.wikipedia.org/wiki/Protein) [phosphorylation](https://en.wikipedia.org/wiki/Phosphorylation) as a biological regulatory mechanism"[[91]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1992-91)

**1992**[**Edwin G. Krebs**](https://en.wikipedia.org/wiki/Edwin_G._Krebs)****[**United States**](https://en.wikipedia.org/wiki/United_States)**"for their discoveries concerning reversible**[**protein**](https://en.wikipedia.org/wiki/Protein)[**phosphorylation**](https://en.wikipedia.org/wiki/Phosphorylation)**as a biological regulatory mechanism"**[**[91]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1992-91)

1993Sir [Richard J. Roberts](https://en.wikipedia.org/wiki/Richard_J._Roberts) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for their discoveries of [split genes](https://en.wikipedia.org/wiki/Split_gene)"[[92]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1993-92)

1993[Phillip A. Sharp](https://en.wikipedia.org/wiki/Phillip_Allen_Sharp) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries of [split genes](https://en.wikipedia.org/wiki/Split_gene)"[[92]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1993-92)

1994[Alfred G. Gilman](https://en.wikipedia.org/wiki/Alfred_G._Gilman) [United States](https://en.wikipedia.org/wiki/United_States)"for their discovery of [G-proteins](https://en.wikipedia.org/wiki/G-protein) and the role of these proteins in [signal transduction](https://en.wikipedia.org/wiki/Signal_transduction) in cells"[[93]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1994-93)

1994[Martin Rodbell](https://en.wikipedia.org/wiki/Martin_Rodbell) [United States](https://en.wikipedia.org/wiki/United_States)"for their discovery of [G-proteins](https://en.wikipedia.org/wiki/G-protein) and the role of these proteins in [signal transduction](https://en.wikipedia.org/wiki/Signal_transduction) in cells"[[93]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1994-93)

1995[Edward B. Lewis](https://en.wikipedia.org/wiki/Edward_B._Lewis) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning the genetic control of early [embryonic development](https://en.wikipedia.org/wiki/Embryonic_development)"[[94]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1995-94)

1995[Christiane Nüsslein-Volhard](https://en.wikipedia.org/wiki/Christiane_N%C3%BCsslein-Volhard) [Germany](https://en.wikipedia.org/wiki/Germany%22%20%5Co%20%22Germany)"for their discoveries concerning the genetic control of early [embryonic development](https://en.wikipedia.org/wiki/Embryonic_development)"[[94]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1995-94)

1995[Eric F. Wieschaus](https://en.wikipedia.org/wiki/Eric_F._Wieschaus) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning the genetic control of early [embryonic development](https://en.wikipedia.org/wiki/Embryonic_development)"[[94]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1995-94)

1996[Peter C. Doherty](https://en.wikipedia.org/wiki/Peter_C._Doherty) [Australia](https://en.wikipedia.org/wiki/Australia%22%20%5Co%20%22Australia)"for their discoveries concerning the specificity of the [cell mediated immune defence](https://en.wikipedia.org/wiki/Major_histocompatibility_complex)"[[95]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1996-95)

1996[Rolf M. Zinkernagel](https://en.wikipedia.org/wiki/Rolf_M._Zinkernagel)  [Switzerland](https://en.wikipedia.org/wiki/Switzerland%22%20%5Co%20%22Switzerland)"for their discoveries concerning the specificity of the [cell mediated immune defence](https://en.wikipedia.org/wiki/Major_histocompatibility_complex)"[[95]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1996-95)

**1997**[**Stanley B. Prusiner**](https://en.wikipedia.org/wiki/Stanley_B._Prusiner)****[**United States**](https://en.wikipedia.org/wiki/United_States)**"for his discovery of**[**Prions**](https://en.wikipedia.org/wiki/Prion)**- a new biological principle of infection"**[**[96]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1997-96)

1998[Robert F. Furchgott](https://en.wikipedia.org/wiki/Robert_F._Furchgott) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning [nitric oxide](https://en.wikipedia.org/wiki/Nitric_oxide) as a signalling molecule in the cardiovascular system"[[97]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1998-97)

1998 [Louis J. Ignarro](https://en.wikipedia.org/wiki/Louis_Ignarro) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning [nitric oxide](https://en.wikipedia.org/wiki/Nitric_oxide) as a signalling molecule in the cardiovascular system"[[97]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1998-97)

1998 [Ferid Murad](https://en.wikipedia.org/wiki/Ferid_Murad) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning [nitric oxide](https://en.wikipedia.org/wiki/Nitric_oxide) as a signalling molecule in the cardiovascular system"[[97]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1998-97)

1999 [Günter Blobel](https://en.wikipedia.org/wiki/G%C3%BCnter_Blobel) [Germany](https://en.wikipedia.org/wiki/Germany)  [United States](https://en.wikipedia.org/wiki/United_States)"for the discovery that [proteins](https://en.wikipedia.org/wiki/Protein) have intrinsic signals that govern their transport and localization in the cell"[[98]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-1999-98)

2000 [Arvid Carlsson](https://en.wikipedia.org/wiki/Arvid_Carlsson) [Sweden](https://en.wikipedia.org/wiki/Sweden%22%20%5Co%20%22Sweden)"for their discoveries concerning [signal transduction](https://en.wikipedia.org/wiki/Signal_transduction) in the [nervous system](https://en.wikipedia.org/wiki/Nervous_system)"[[99]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2000-99)

2000 [Paul Greengard](https://en.wikipedia.org/wiki/Paul_Greengard) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning [signal transduction](https://en.wikipedia.org/wiki/Signal_transduction) in the [nervous system](https://en.wikipedia.org/wiki/Nervous_system)"[[99]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2000-99)

2000 [Eric R. Kandel](https://en.wikipedia.org/wiki/Eric_Kandel) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning [signal transduction](https://en.wikipedia.org/wiki/Signal_transduction) in the [nervous system](https://en.wikipedia.org/wiki/Nervous_system)"[[99]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2000-99)

**2001** [**Leland H. Hartwell**](https://en.wikipedia.org/wiki/Leland_H._Hartwell)****[**United States**](https://en.wikipedia.org/wiki/United_States)**"for their discoveries of key regulators of the**[**cell cycle**](https://en.wikipedia.org/wiki/Cell_cycle)**"**[**[100]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2001-100)

**2001 Sir**[**Tim Hunt**](https://en.wikipedia.org/wiki/Tim_Hunt)****[**United Kingdom**](https://en.wikipedia.org/wiki/United_Kingdom)**"for their discoveries of key regulators of the**[**cell cycle**](https://en.wikipedia.org/wiki/Cell_cycle)**"**[**[100]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2001-100)

**2001 Sir**[**Paul M. Nurse**](https://en.wikipedia.org/wiki/Paul_Nurse)****[**United Kingdom**](https://en.wikipedia.org/wiki/United_Kingdom)**"for their discoveries of key regulators of the**[**cell cycle**](https://en.wikipedia.org/wiki/Cell_cycle)**"**[**[100]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2001-100)

2002 [Sydney Brenner](https://en.wikipedia.org/wiki/Sydney_Brenner) [South Africa](https://en.wikipedia.org/wiki/South_Africa)"for their discoveries concerning 'genetic regulation of organ development and [programmed cell death](https://en.wikipedia.org/wiki/Apoptosis)'"[[101]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2002-101)

2002 [H. Robert Horvitz](https://en.wikipedia.org/wiki/H._Robert_Horvitz) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning 'genetic regulation of organ development and [programmed cell death](https://en.wikipedia.org/wiki/Apoptosis)'"[[101]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2002-101)

2002 Sir [John E. Sulston](https://en.wikipedia.org/wiki/John_Sulston) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for their discoveries concerning 'genetic regulation of organ development and [programmed cell death](https://en.wikipedia.org/wiki/Apoptosis)'"[[101]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2002-101)

2003 [Paul Lauterbur](https://en.wikipedia.org/wiki/Paul_Lauterbur) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning [magnetic resonance imaging](https://en.wikipedia.org/wiki/Magnetic_resonance_imaging)"[[102]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2003-102)

2003 Sir [Peter Mansfield](https://en.wikipedia.org/wiki/Peter_Mansfield) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for their discoveries concerning [magnetic resonance imaging](https://en.wikipedia.org/wiki/Magnetic_resonance_imaging)"[[102]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2003-102)

2004 [Richard Axel](https://en.wikipedia.org/wiki/Richard_Axel) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries of [odorant receptors](https://en.wikipedia.org/wiki/Odorant_receptor) and the organization of the [olfactory system](https://en.wikipedia.org/wiki/Olfactory_system)"[[103]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2004-103)

2004 [Linda B. Buck](https://en.wikipedia.org/wiki/Linda_B._Buck) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries of [odorant receptors](https://en.wikipedia.org/wiki/Odorant_receptor) and the organization of the [olfactory system](https://en.wikipedia.org/wiki/Olfactory_system)"[[103]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2004-103)

2005 [Barry J. Marshall](https://en.wikipedia.org/wiki/Barry_Marshall) [Australia](https://en.wikipedia.org/wiki/Australia%22%20%5Co%20%22Australia)"for their discovery of the bacterium [*Helicobacter pylori*](https://en.wikipedia.org/wiki/Helicobacter_pylori) and its role in [gastritis](https://en.wikipedia.org/wiki/Gastritis) and [peptic ulcer disease](https://en.wikipedia.org/wiki/Peptic_ulcer_disease)"[[104]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2005-104)

2005 [J. Robin Warren](https://en.wikipedia.org/wiki/Robin_Warren) [Australia](https://en.wikipedia.org/wiki/Australia%22%20%5Co%20%22Australia)"for their discovery of the bacterium [*Helicobacter pylori*](https://en.wikipedia.org/wiki/Helicobacter_pylori) and its role in [gastritis](https://en.wikipedia.org/wiki/Gastritis) and [peptic ulcer disease](https://en.wikipedia.org/wiki/Peptic_ulcer_disease)"[[104]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2005-104)

2006 [Andrew Z. Fire](https://en.wikipedia.org/wiki/Andrew_Fire) [United States](https://en.wikipedia.org/wiki/United_States)"for their discovery of [RNA interference](https://en.wikipedia.org/wiki/RNA_interference) - gene silencing by double-stranded RNA"[[105]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2006-105)

2006 [Craig C. Mello](https://en.wikipedia.org/wiki/Craig_Mello) [United States](https://en.wikipedia.org/wiki/United_States)"for their discovery of [RNA interference](https://en.wikipedia.org/wiki/RNA_interference) - gene silencing by double-stranded RNA"[[105]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2006-105)

2007 [Mario R. Capecchi](https://en.wikipedia.org/wiki/Mario_Capecchi) [United States](https://en.wikipedia.org/wiki/United_States)  [Italy](https://en.wikipedia.org/wiki/Italy%22%20%5Co%20%22Italy)"for their discoveries of principles for introducing specific gene modifications in mice by the use of [embryonic stem cells](https://en.wikipedia.org/wiki/Embryonic_stem_cell)."[[106]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2007-106)

2007 Sir [Martin J. Evans](https://en.wikipedia.org/wiki/Martin_Evans) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for their discoveries of principles for introducing specific gene modifications in mice by the use of [embryonic stem cells](https://en.wikipedia.org/wiki/Embryonic_stem_cell)."[[106]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2007-106)

2007 [Oliver Smithies](https://en.wikipedia.org/wiki/Oliver_Smithies) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries of principles for introducing specific gene modifications in mice by the use of [embryonic stem cells](https://en.wikipedia.org/wiki/Embryonic_stem_cell)."[[106]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2007-106)

2008 [Harald zur Hausen](https://en.wikipedia.org/wiki/Harald_zur_Hausen) [Germany](https://en.wikipedia.org/wiki/Germany%22%20%5Co%20%22Germany)"for his discovery of human papilloma viruses causing [cervical cancer](https://en.wikipedia.org/wiki/Cervical_cancer)"[[107]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2008-107)

2008 [Françoise Barré-Sinoussi](https://en.wikipedia.org/wiki/Fran%C3%A7oise_Barr%C3%A9-Sinoussi) [France](https://en.wikipedia.org/wiki/France%22%20%5Co%20%22France)"for their discovery of [human immunodeficiency virus](https://en.wikipedia.org/wiki/Human_immunodeficiency_virus)"[[107]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2008-107)

2008 [Luc Montagnier](https://en.wikipedia.org/wiki/Luc_Montagnier) [France](https://en.wikipedia.org/wiki/France%22%20%5Co%20%22France)"for their discovery of [human immunodeficiency virus](https://en.wikipedia.org/wiki/Human_immunodeficiency_virus)"[[107]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2008-107)

**2009** [**Elizabeth H. Blackburn**](https://en.wikipedia.org/wiki/Elizabeth_Blackburn)****[**United States**](https://en.wikipedia.org/wiki/United_States) ** [Australia](https://en.wikipedia.org/wiki/Australia%22%20%5Co%20%22Australia)"for the discovery of how**[**chromosomes**](https://en.wikipedia.org/wiki/Chromosome)**are protected by**[**telomeres**](https://en.wikipedia.org/wiki/Telomere)**and the**[**enzyme**](https://en.wikipedia.org/wiki/Enzyme)[**telomerase**](https://en.wikipedia.org/wiki/Telomerase)**"**[**[108]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2009-108)

**2009** [**Carol W. Greider**](https://en.wikipedia.org/wiki/Carol_W._Greider)****[**United States**](https://en.wikipedia.org/wiki/United_States)**"for the discovery of how**[**chromosomes**](https://en.wikipedia.org/wiki/Chromosome)**are protected by**[**telomeres**](https://en.wikipedia.org/wiki/Telomere)**and the**[**enzyme**](https://en.wikipedia.org/wiki/Enzyme)[**telomerase**](https://en.wikipedia.org/wiki/Telomerase)**"**[**[108]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2009-108)

**2009** [**Jack W. Szostak**](https://en.wikipedia.org/wiki/Jack_W._Szostak)****[**United States**](https://en.wikipedia.org/wiki/United_States)**"for the discovery of how**[**chromosomes**](https://en.wikipedia.org/wiki/Chromosome)**are protected by**[**telomeres**](https://en.wikipedia.org/wiki/Telomere)**and the**[**enzyme**](https://en.wikipedia.org/wiki/Enzyme)[**telomerase**](https://en.wikipedia.org/wiki/Telomerase)**"**[**[108]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2009-108)

2010 Sir [Robert G. Edwards](https://en.wikipedia.org/wiki/Robert_G._Edwards) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for the development of [in vitro fertilization](https://en.wikipedia.org/wiki/In_vitro_fertilization)"[[109]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2010-109)

2011 [Bruce A. Beutler](https://en.wikipedia.org/wiki/Bruce_Beutler) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning the activation of [innate immunity](https://en.wikipedia.org/wiki/Innate_immunity)"[[110]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2011-110)

2011 [Jules A. Hoffmann](https://en.wikipedia.org/wiki/Jules_A._Hoffmann) [France](https://en.wikipedia.org/wiki/France%22%20%5Co%20%22France)"for their discoveries concerning the activation of [innate immunity](https://en.wikipedia.org/wiki/Innate_immunity)"[[110]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2011-110)

2011 [Ralph M. Steinman](https://en.wikipedia.org/wiki/Ralph_M._Steinman) [Canada](https://en.wikipedia.org/wiki/Canada%22%20%5Co%20%22Canada)"for his discovery of the [dendritic cell](https://en.wikipedia.org/wiki/Dendritic_cell) and its role in [adaptive immunity](https://en.wikipedia.org/wiki/Adaptive_immunity)" (awarded posthumously)[[111]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-111)[[112]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-guardian_nobel_prize-112)[[110]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2011-110)

**2012 Sir**[**John B. Gurdon**](https://en.wikipedia.org/wiki/John_Gurdon)****[**United Kingdom**](https://en.wikipedia.org/wiki/United_Kingdom)**"for the discovery that mature cells can be**[**reprogrammed**](https://en.wikipedia.org/wiki/Induced_pluripotent_stem_cell)**to become**[**pluripotent**](https://en.wikipedia.org/wiki/Pluripotency_%28biological_compounds%29)**"**[**[113]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2012-113)

**2012** [**Shinya Yamanaka**](https://en.wikipedia.org/wiki/Shinya_Yamanaka)** [Japan](https://en.wikipedia.org/wiki/Japan%22%20%5Co%20%22Japan)"for the discovery that mature cells can be**[**reprogrammed**](https://en.wikipedia.org/wiki/Induced_pluripotent_stem_cell)**to become**[**pluripotent**](https://en.wikipedia.org/wiki/Pluripotency_%28biological_compounds%29)**"**[**[113]**](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2012-113)

2013 [James E. Rothman](https://en.wikipedia.org/wiki/James_E._Rothman) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries of machinery regulating [vesicle](https://en.wikipedia.org/wiki/Vesicle_%28biology_and_chemistry%29) traffic, a major transport system in our [cells](https://en.wikipedia.org/wiki/Cell_%28biology%29)"[[114]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2013-114)

2013 [Randy W. Schekman](https://en.wikipedia.org/wiki/Randy_W._Schekman) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries of machinery regulating [vesicle](https://en.wikipedia.org/wiki/Vesicle_%28biology_and_chemistry%29) traffic, a major transport system in our [cells](https://en.wikipedia.org/wiki/Cell_%28biology%29)"[[114]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2013-114)

2013[Thomas C. Südhof](https://en.wikipedia.org/wiki/Thomas_C._S%C3%BCdhof) [United States](https://en.wikipedia.org/wiki/United_States)  [Germany](https://en.wikipedia.org/wiki/Germany%22%20%5Co%20%22Germany)"for their discoveries of machinery regulating [vesicle](https://en.wikipedia.org/wiki/Vesicle_%28biology_and_chemistry%29) traffic, a major transport system in our [cells](https://en.wikipedia.org/wiki/Cell_%28biology%29)"[[114]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2013-114)

2014 [John O'Keefe](https://en.wikipedia.org/wiki/John_O%27Keefe_%28neuroscientist%29) [United States](https://en.wikipedia.org/wiki/United_States)  [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for their discoveries of cells that constitute a positioning system in the brain"[[115]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2014-115)

2014 [May-Britt Moser](https://en.wikipedia.org/wiki/May-Britt_Moser) [Norway](https://en.wikipedia.org/wiki/Norway%22%20%5Co%20%22Norway)"for their discoveries of cells that constitute a positioning system in the brain"[[115]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2014-115)

2014 [Edvard I. Moser](https://en.wikipedia.org/wiki/Edvard_I._Moser) [Norway](https://en.wikipedia.org/wiki/Norway%22%20%5Co%20%22Norway)"for their discoveries of cells that constitute a positioning system in the brain"[[115]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2014-115)

2015 [William C. Campbell](https://en.wikipedia.org/wiki/William_C._Campbell_%28scientist%29) [Ireland](https://en.wikipedia.org/wiki/Republic_of_Ireland)  [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries concerning [a novel therapy](https://en.wikipedia.org/wiki/Avermectin) against infections caused by roundworm parasites"[[116]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2015-116)

2015 [Satoshi Ōmura](https://en.wikipedia.org/wiki/Satoshi_%C5%8Cmura) [Japan](https://en.wikipedia.org/wiki/Japan%22%20%5Co%20%22Japan)"for their discoveries concerning [a novel therapy](https://en.wikipedia.org/wiki/Avermectin) against infections caused by roundworm parasites"[[116]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2015-116)

2015 [Tu Youyou](https://en.wikipedia.org/wiki/Tu_Youyou) [China](https://en.wikipedia.org/wiki/China%22%20%5Co%20%22China)"for her discoveries concerning [a novel therapy](https://en.wikipedia.org/wiki/Artemisinin) against [malaria](https://en.wikipedia.org/wiki/Malaria)"[[116]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2015-116)

2016 [Yoshinori Ohsumi](https://en.wikipedia.org/wiki/Yoshinori_Ohsumi) [Japan](https://en.wikipedia.org/wiki/Japan%22%20%5Co%20%22Japan)"for his discoveries of mechanisms for [autophagy](https://en.wikipedia.org/wiki/Autophagy)"[[117]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2016-117)

2017 [Jeffrey C. Hall](https://en.wikipedia.org/wiki/Jeffrey_C._Hall) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries of molecular mechanisms controlling the [circadian rhythm](https://en.wikipedia.org/wiki/Circadian_rhythm)"[[118]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2017-118)

2017 [Michael Rosbash](https://en.wikipedia.org/wiki/Michael_Rosbash) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries of molecular mechanisms controlling the [circadian rhythm](https://en.wikipedia.org/wiki/Circadian_rhythm)"[[118]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2017-118)

2017 [Michael W. Young](https://en.wikipedia.org/wiki/Michael_W._Young) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries of molecular mechanisms controlling the [circadian rhythm](https://en.wikipedia.org/wiki/Circadian_rhythm)"[[118]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2017-118)

2018 [James P. Allison](https://en.wikipedia.org/wiki/James_P._Allison) [United States](https://en.wikipedia.org/wiki/United_States)"for their discovery of cancer therapy by inhibition of negative immune regulation"[[119]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2018-119)

2018 [Tasuku Honjo](https://en.wikipedia.org/wiki/Tasuku_Honjo) [Japan](https://en.wikipedia.org/wiki/Japan%22%20%5Co%20%22Japan)"for their discovery of cancer therapy by inhibition of negative immune regulation"[[119]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2018-119)

2019 [William Kaelin Jr.](https://en.wikipedia.org/wiki/William_Kaelin_Jr.) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries of [how cells](https://en.wikipedia.org/wiki/Cellular_respiration) sense and adapt to oxygen availability"[[120]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2019-120)

2019 [Peter J. Ratcliffe](https://en.wikipedia.org/wiki/Peter_J._Ratcliffe) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for their discoveries of [how cells](https://en.wikipedia.org/wiki/Cellular_respiration) sense and adapt to oxygen availability"[[120]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2019-120)

2019 [Gregg L. Semenza](https://en.wikipedia.org/wiki/Gregg_L._Semenza) [United States](https://en.wikipedia.org/wiki/United_States)"for their discoveries of [how cells](https://en.wikipedia.org/wiki/Cellular_respiration) sense and adapt to oxygen availability"[[120]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2019-120)

2020 [Harvey J. Alter](https://en.wikipedia.org/wiki/Harvey_J._Alter) [United States](https://en.wikipedia.org/wiki/United_States)"for the discovery of [Hepatitis C virus](https://en.wikipedia.org/wiki/Hepatitis_C_virus)"[[121]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2020-121)

2020 [Michael Houghton](https://en.wikipedia.org/wiki/Michael_Houghton_%28virologist%29) [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom)"for the discovery of [Hepatitis C virus](https://en.wikipedia.org/wiki/Hepatitis_C_virus)"[[121]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2020-121)

2020 [Charles M. Rice](https://en.wikipedia.org/wiki/Charles_M._Rice) [United States](https://en.wikipedia.org/wiki/United_States)"for the discovery of [Hepatitis C virus](https://en.wikipedia.org/wiki/Hepatitis_C_virus)"[[121]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2020-121)

2021 [David Julius](https://en.wikipedia.org/wiki/David_Julius) [United States](https://en.wikipedia.org/wiki/United_States)"for the discovery of receptors for temperature and touch"[[122]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2021-122)

2021 [Ardem Patapoutian](https://en.wikipedia.org/wiki/Ardem_Patapoutian) [United States](https://en.wikipedia.org/wiki/United_States) [Lebanon](https://en.wikipedia.org/wiki/Lebanon%22%20%5Co%20%22Lebanon)"for the discovery of receptors for temperature and touch"[[122]](https://en.wikipedia.org/wiki/List_of_Nobel_laureates_in_Physiology_or_Medicine#cite_note-nobel-2021-122)

**The first woman to win a Nobel Prize was Marie Curie, who won the Nobel Prize in Physics in 1903 with her husband, Pierre Curie, and Henri Becquerel; in 1911, she won the Nobel Prize in Chemistry. Curie's daughter, Irène Joliot-Curie, won the Nobel Prize in Chemistry in 1935, making the two the only mother-daughter pair to have won Nobel Prizes**

**Scientists Jenifer Doudna and Emmanuelle Charpentier received the prestigious Nobel Prize in Chemistry for 2020 for their large contribution to the development of so-called genetic scissors, the CRIPSR-Cas9 method.**