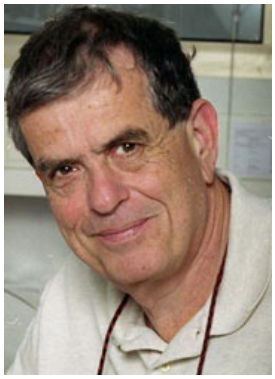
Aaron J. Ciechanover



Data di nascita 1 ottobre 1947

Place Haifa (Israele)

Nomina 12 febbraio 2007

Disciplina Biochimica

Titolo Professore, Premio Nobel in Chimica, 2004

Principali premi, riconoscimenti e accademie

Premi: Premio Austria Ilse and Helmut Wachter, Università di Innsbruck (1999); Premio del Jewish National Fund Alkales for l'Illustre Carriera Scientifica (2000); Premio Albert and Mary Lasker per la Ricerca Medica di Base (2000); Premio della Lotteria Israeliana Michael Landau (Mifa'al Ha'Peis) per le scoperte significative nelle Scienze Mediche (2001); Premio EMET (Verità) per le Arti, le Scienze e la Cultura, assegnato dal Primo Ministro israeliano, per le Scienze biologiche e la Medicina (2002); Premio Israele per la Biologia (2003); Premio della Japan Society for Promotion of Science (JSPS) (2003 & 2006); Distinguished Scientist Award (2003); Premio Nobel in Chimica (condiviso con il Dr. Avram Hershko e il Dr. Irwin A. Rose) (2004). Borse di Studio: Fulbright Fellow, M.I.T., (Laboratorio del Dr. Harvey Lodish) (1981-4); Leukemia Society of America Fellow, M.I.T. (1981-3); Israel Cancer Research Fund (ICRF), USA Fellow, M.I.T. (1981-4); Medical Foundation and Charles A. King Trust Fellow, M.I.T. (1983-4); American Cancer Society Eleanor Roosevelt Memorial Fellow (1988-9). *Accademie e Associazioni professionali*: American Association for Advancement of Science (AAAS); Membro, Council of the European Molecular Biology Organization (EMBO) (1996-); Membro, Asia-Pacific IMBN (International Molecular Biology Network) (1999-); Membro, European Academy of Arts and Sciences (2004); Membro, Israeli National Academy of Sciences and Humanities (2004); Membro onorario, Royal Society of Chemistry RCS (Regno Unito), HonFRSC (2005); Membro Straniero, American Philosophical Society (2005); Membro onorario, Society for Experimental Biology and Medicine (2006); Membro, Federation of Asian Chemical Societies (FACS) (2006); Membro, Pontificia Accademia delle Scienze (2007). *Onorificenze*: Professore di biologia della Cattedra di Janet and David Polak, Technion-Israel Institute of Technology, Haifa, Israele (1996-); Illustre Professore Universitario, Technion-Israel Institute of Technology, Haifa, Israele (2002-); Professore, Israel Cancer Research Fund (ICRF), USA (2003-); Medaglia della Cell Stress Society International – CSSi (2005); Medaglia Sir Hans Krebs, Federation of the European Biochemical Societies (FEBS) (2006). *Lauree honoris causa*: Dottorato onorario (Doctor Philosophiae Honoris Causa; Ph.D. Hon.), Università di Tel Aviv, Israele (2001); Dottorato Onorario (Doctor Philosophiae Honoris Causa; Ph.D. Hon.), Università Ben-Gurion, Beer Sheba, Israele (2004); Dottorato Onorario, Università di Osaka, Giappone (2005); Dottorato Onorario, Università di Atene, Grecia (2005); Dottorato Onorario, Università Nazionale dell'Uruguay, Montevideo (2005); Dottorato Onorario, Università di Washington, St. Louis, Missouri, USA (2006); Dottorato Onorario (Doctor Philosophiae Honoris Causa; Ph.D. Hon.), Università Cayetano Heredia, Lima, Perù (2006); Professore Onorario, Capital University of Medical Sciences (CPUMS), Pechino, Cina (2006); Professore Onorario, Peking Union Medical College (PUMC), Pechino, Cina; Professore Onorario, Chinese Academy of Medical Sciences (CAMS), Cina (2006); Dottorato Onorario (Doctor Philosophiae Honoris Causa; Ph.D. Hon.), Università Ebraica, Gerusalemme, Israele (2007); Dottore Onorario e Membro straniero, Accademia polacca di Medicina (2007); Dottorato Onorario (Doctor Philosophiae Honoris Causa; Ph.D. Hon.), Università Bar-Ilian, Ramat Gan, Israele (2007); Dottorato Onorario (Doctor Honoris Causa), Universidad San Francisco, Quito, Ecuador (2008).

Riassunto dell'attività scientifica

Attualmente le ricerche del Dr Ciechanover sono focalizzate sulla regolazione dei fattori di trascrizione, sui soppressori tumorali e sulle onco-proteine e sullo sviluppo di nuove modalità di trattamento delle malattie

tumorali e neurodegenerative, sulla base di un meccanismo di azione noto e delle aberrazioni nell'attività del sistema dell'ubiquitina che ha contribuito a scoprire.

Pubblicazioni principali

Hershko, A., Heller, H., Ganoth, D., and Ciechanover, A. (1978), Mode of degradation of abnormal globin chains in rabbit reticulocytes, *Protein Turnover and Lysosome Function* (H.L. Segal & D.J. Doyle, eds.) Academic Press, New York, pp. 149-69; Ciechanover A., Hod, Y., and Hershko, A. (1978), A heat-stable polypeptide component of an ATP-dependent proteolytic system from reticulocytes, *Biochem. Biophys. Res. Common*. 81, 1100-5; Ciechanover, A., Heller, H., Elias, S., Haas, A.L., and Hershko, A. (1980), ATP-dependent conjugation of reticulocyte proteins with the polypeptide required for protein degradation, *Proc. Natl. Acad. Sci. USA*. 77, 1365-8; Hershko, A., Ciechanover, A., Heller, H., Haas, A.L., and Rose, I.A. (1980), Proposed role of ATP in protein breakdown: Conjugation of proteins with multiple chains of the polypeptide of ATP-dependent proteolysis, *Proc. Natl. Acad. Sci. USA* 77, 1783-6; Ciechanover, A., Elias, S., Heller, H., Ferber, S. and Hershko, A. (1980), Characterization of the heat-stable polypeptide of the ATP-dependent proteolytic system from reticulocytes, *J. Biol. Chem.* 255, 7525-8; Hershko, A., Ciechanover, A., and Rose, I.A. (1981), Identification of the active amino acid residue of the polypeptide of ATP-dependent protein breakdown, *J. Biol. Chem*. 256, 1525-8; Ciechanover A., Heller H., Katz-Etzion R., Hershko A. (1981) Activation of the heat-stable polypeptide of the ATP-dependent proteolytic system, *Proc. Natl. Acad. Sci. USA*, Feb 78(2):761-5; Ciechanover, A., and Ben-Saadon R. (2004), N-terminal ubiquitination: More protein substrates join in, *Trends Cell Biol.* 14, 103-6; Ciechanover, A., Elias, S., Heller, H. & Hershko, A. (1982), 'Covalent affinity' purification of ubiquitin-activating enzyme,*J. Biol. Chem.* 257, 2537-42; Hershko, A., Heller, H., Elias, S., and Ciechanover, A. (1983), Components of ubiquitin-protein ligase system: Resolution, affinity purification and role in protein breakdown, *J. Biol. Chem.* 258, 8206-14; Hershko, A., Eytan, E., Ciechanover, A. and Haas, A.L. (1982), Immunochemical Analysis of the turnover of ubiquitin-protein conjugates in intact cells: Relationship to the breakdown of abnormal proteins, *J. Biol. Chem.* 257, 13964-70; Finley, D., Ciechanover, A., and Varshavsky, A. (1984), Thermolability of ubiquitin-activating enzyme from the mammalian cell cycle mutant ts85, *Cell* 37, 43-55; Ciechanover, A., Finley D., and Varshavsky, A. (1984), Ubiquitin dependence of selective protein degradation demonstrated in the mammalian cell cycle mutant ts85, *Cell* 37, 57-66; Ciechanover A., Finley D., Varshavsky A. (1984) Ubiquitin dependence of selective protein degradation demonstrated in the mammalian cell cycle mutant ts85, *Cell*, May 37(1):57-66; Ciechanover A., Wolin S.L., Steitz J.A., Lodish H.F. (1985), Transfer RNA is an essential component of the ubiquitin- and ATP-dependent proteolytic system, *Proc. Natl. Acad. Sci. USA*, Mar 82(5):1341-5; Ferber S., Ciechanover A. (1986) Transfer RNA is required for conjugation of ubiquitin to selective substrates of the ubiquitin- and ATP-dependent proteolytic system, *J. Biol. Chem.*, Mar 5;261(7):3128-34; Ferber S., Ciechanover A. (1987) Role of arginine-tRNA in protein degradation by the ubiquitin pathway, *Nature*, Apr 23-29; 326(6115):808-11; Ciechanover A., Ferber S., Ganoth D., Elias S., Hershko A., Arfin S. (1988) Purification and characterization of arginyl-tRNA-protein transferase from rabbit reticulocytes. Its involvement in post-translational modification and degradation of acidic NH2 termini substrates of the ubiquitin pathway, *J. Biol. Chem.*, Aug 15;263(23):11155-67; Mayer A., Siegel N.R., Schwartz A.L., Ciechanover A. (1989) Degradation of proteins with acetylated amino termini by the ubiquitin system,*Science*, Jun 23;244(4911):1480-3; Elias S., Ciechanover A. (1990) Post-translational addition of an arginine moiety to acidic NH2 termini of proteins is required for their recognition by ubiquitin-protein ligase, *J. Biol. Chem.*, Sep 15;265(26):15511-7; Ciechanover, A., DiGiuseppe, J.A., Bercovich, B., Orian, A., Richter, J.D., Schwartz, A.L., and Brodeur, G.M. (1991), Degradation of nuclear oncoproteins by the ubiquitin system in vitro, *Proc. Natl. Acad. Sci. USA* 88, 139-43; Breitschopf K., Bengal E., Ziv T., Admon A., Ciechanover A. (1998) A novel site for ubiquitination: the N-terminal residue, and not internal lysines of MyoD, is essential for conjugation and degradation of the protein, *EMBO J.* Oct 15;17(20):5964-73; Glickman, M.H., and Ciechanover, A. (2002), The ubiquitin-proteasome pathway: Destruction for the sake of construction, *Physiological Reviews* 82, 373-428; Ciechanover, A. (2005), From the lysosome to ubiquitin and the proteasome, *Nature Rev. Mol. Cell Biol.* 6, 79-86; Ciechanover A. (2005). Intracellular protein degradation: from a vague idea, through the lysosome and the ubiquitin-proteasome system, and onto human diseases and drug targeting (Nobel lecture), *Angew. Chem. Int. Ed. Engl.* Sep 19;44(37):5944-67.