Jennifer A. Doudna

Curriculum Vitae

Howard Hughes Medical Institute
Department of Molecular and Cell Biology
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Education and Training:

1985	B.A., Biochemistry, Pomona College
1989	Ph.D., Biological Chemistry and Molecular Pharmacology, Harvard Medical School. Advisor: Professor Jack W. Szostak
1989 – 1991	Research Fellow in Molecular Biology, Massachusetts General Hospital; Research Fellow in Genetics, Harvard Medical School. Advisor: Professor Jack W. Szostak
1991 – 1994	Lucille P. Markey Postdoctoral Scholar in Biomedical Science, University of Colorado, Department of Chemistry and Biochemistry. Advisor: Professor Thomas R. Cech

Positions:

2015 – Present	Chair, Chancellor's Advisor Committee on Biology, UC Berkeley
2013 – Present	Executive Director, Innovative Genomics Initiative @ UC Berkeley/UCSF
2013 – 2015	Head, Division of Biochemistry, Biophysics and Structural Biology, UC Berkeley
2013 – Present	Li Ka Shing Chancellor's Chair in Biomedical Sciences, UC Berkeley
2002 – Present	Professor, University of California, Berkeley, Department of Molecular and Cell Biology and Department of Chemistry
1997 – Present	Investigator, Howard Hughes Medical Institute
2000 – 2002	Henry Ford II Professor, Yale University, Department of Molecular Biophysics and Biochemistry
1999 – 2002	Professor, Yale University, Department of Molecular Biophysics and Biochemistry
1998	Associate Professor, Yale University, Department of Molecular Biophysics and Biochemistry
1994 – 1997	Assistant Professor, Yale University, Department of Molecular Biophysics and Biochemistry

Honors:

2015	Massry Prize
2015	Gruber Prize in Genetics
2015	Princess of Asturias Award for Technical and Scientific Research
2015	Fellow, American Society of Microbiology
2015	International Society for Transgenic Technologies Prize
2015	Time 100, *Time Magazine*'s 100 most influential people in the world
2014	Breakthrough Prize in Life Sciences
2014	Member, National Academy of Inventors
2014	*Foreign Policy*'s 100 Leading Global Thinkers

2014 Jacob Heskel Gabbay Award in Biotechnology and Medicine
2014 Dr. Paul Janssen Award for Biomedical Research
2014 Lurie Prize, Foundation for the NIH
2013 BayBio Pantheon Award
2013 Hans Neurath Award, Protein Society
2013 Mildred Cohn Award, ASBMB
2010 Member, Institute of Medicine of the National Academies
2008 Fellow, American Association for the Advancement of Science
2007 The Nucleic Acid Group Award, NACON VII, Sheffield, UK
2003 Member, American Academy of Arts and Sciences
2002 Member, National Academy of Sciences
2001 Eli Lilly Award in Biological Chemistry, American Chemical Society
2000 – 2012 Trustee, Pomona College
2000 – 2012 Member, Life Sciences Institute Advisory Board, University of Michigan
2000 Jean Francois LeFevre Memorial Lectureship, CNRS, Strasbourg, France
2000 R.B. Woodward Visiting Professorship, Harvard University
2000 Alan T. Waterman Award, National Science Foundation
1999 National Academy of Sciences Award for Initiatives in Research
1996 Johnson Foundation Prize for Innovative Research

Publications (total of 194):

Research articles

Sternberg, S.H., LaFrance, B., Kaplan, M. and Doudna, J.A. (2015) Conformational control of DNA target cleavage by CRISPR-Cas9. *Nature*, in press.

Schumann, K., Lin, S., Boyer, E., Simeonov, D.R., Subramaniam, M., Gate, R.E., Haliburton, G.E., Ye, C.J., Bluestone, J.A., Doudna, J.A., and Marson, A. (2015) Generation of knock-in primary human T cells using Cas9 ribonucleoproteins. *Proc. Natl. Acad. Sci. USA* **112**,10437-42.

Kranzusch, P.J., Wilson, S.C., Lee, A., Berger, J.M., Doudna, J.A. and Vance, R.E. (2015) Ancient origin of cGAS-STING signaling reveals evolution of immunity second messenger. *Mol. Cell*, epub. Aug. 20, 2015.

Jiang, F., Zhou, K., Ma, K., Gressel, S. and Doudna, J.A. (2015) A Cas9-guide RNA complex pre-organized for target DNA recognition. *Science* **348**,1477-81.

Taylor, D.W., Zhu, Y., Staals, R.H.J., Kornfeld, J.E., Shinkai, A., van der Oost, J., Nogales, E. and Doudna, J.A. (2015) Structures of the CRISPR-Cmr complex reveal mode of RNA target positioning. *Science* **348**, 581-5.

Wright, A.V., Sternberg, S.H., Taylor, D.W., Staahl, B.T., Bardales, J.A., Kornfeld, J.E., Doudna, J.A. (2015) Rational design of a split-Cas9 enzyme complex. *Proc. Natl. Acad. Sci. USA* **112**, 2984-9.

Nuñez, J.K., Lee, A.S.Y., Engelman, A. and Doudna, J.A. (2015) Integrase-mediated spacer acquisition during CRISPR-Cas adaptive immunity. *Nature* **519**, 193-8.

Wilson, R.C., Tambe, A., Noland, C.L., Schneider, C.P., Kidwell, M.A. and Doudna, J.A. (2015) Dicer:TRBP complex formation ensures accurate mammalian microRNA biogenesis. *Mol. Cell* **57**, 397-407.

Lin, S., Staahl, B., Alla, R.K. and Doudna, J.A. (2014) Enhanced homology-directed human genome engineering by controlled timing of CRISPR/Cas9 delivery. *eLife* 10.7554/eLife.04766.

Staals, R.H., Zhu, Y., Taylor, D.W., Kornfeld, J.E., Sharma, K., Barendregt, A., Koehorst, J.J., Vlot, M., Neupane, N., Varossieau, K., Sakamoto, K., Suzuki, T., Dohmae, N., Yokoyama, S., Schaap, P.J., Urlaub, H., Heck, A.J., Nogales, E., Doudna, J.A., Shinkai, A., van der Oost, J. (2014) RNA targeting by the Type III-A CRISPR-Cas Csm complex of *Thermus thermophilus*. *Mol Cell* **56**, 518-30.

Kapral, G.J., Jain, S., Noeske, J., Doudna, J.A., Richardson, D.C. and Richardson, J.S. (2014) New tools provide a second look at HDV ribozyme structure, dynamics and cleavage. *Nucleic Acids Res.*

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Kidwell, M., Chan, J.M. and Doudna, J.A. (2014) Evolutionarily conserved roles of the Dicer helicase domain in regulating RNAi processing. *J. Biol. Chem*. pii: jbc.M114.589051.
O'Connell, M.R., Oakes, B.L., Sternberg, S.H., East-Seletsky, A., Kaplan, M. and Doudna, J.A. (2014) Programmable RNA recognition and cleavage by CRISPR/Cas9. *Nature* **516**, 263-6.
Bai, Y., Tambe, A., Zhou, K. and Doudna, J.A. (2014) RNA-guided assembly of Rev-RRE nuclear export complexes**.** *eLife* 3:e03656.
Kranzusch, P.J., Lee, A.S.Y., Wilson, S.C., Solovykh, M.S., Vance, R. E., Berger, J.M. and Doudna, J.A. (2014) Structure-guided reprogramming of human cGAS dinucleotide linkage specificity. *Cell* **158**, 1011-21.
Nuñez, J.K., Kranzusch, P.J., Noeske, J., Wright, A.V. and Doudna, J.A. (2014) Cas1–Cas2 complex formation mediates spacer acquisition during CRISPR adaptive immunity. *Nature Struct. Mol. Biol.* **21**, 528-34.
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Sternberg, S.H., Redding, S., Jinek, M.J., Greene, E.C. and Doudna, J.A. (2014) DNA interrogation by the CRISPR RNA-guided endonuclease Cas9. *Nature* **507**, 62-7. (cover article; Perspective in *Science* published May 2014).
Niewoehner, O., Jinek, M. and Doudna, J.A. (2013) Evolution of CRISPR RNA recognition and processing by Cas6 endonucleases. *Nucleic Acids Res*. **42**, 1341-53.
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Haurwitz, R.E., Sternberg, S.H. and Doudna, J.A. (2012) Csy4 relies on an unusual catalytic dyad to position and cleave CRISPR RNA. *EMBO J*. **31**, 2824-32. PMID: 22522703
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Wiedenheft, B., van Duijn, E., Bultema, J., Waghmare, S., Zhou, K., Barendregt, A., Westphal, W., Heck, A., Boekema, E., Dickman, M. and Doudna, J.A. (2011) RNA-guided complex from a bacterial immune system enhances target recognition through seed sequence interactions. *Proc. Natl. Acad. Sci. USA* **108**, 10092-7. PMID: 21536913.

Jore, M.M., Lundgren, M., van Duijn, E., Bultema, J.B., Westra, E.R., Waghmare, S.P., Wiedenheft, B., Pul, U., Wurm, R., Wagner, R., Beijer, M.R., Barendregt, A., Zhou, K., Snijders, A.P., Dickman, M.J., Doudna, J.A., Boekema, E.J., Heck, A.J., van der Oost, J., Brouns, S.J. (2011) Structural basis for CRISPR RNA-guided DNA recognition by Cascade. *Nature Struct. Mol. Biol.* **18**, 529-36. PMID: 21460843.

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