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## The Stewart Shuman Lab

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Stewart Shuman, MD, PhD  
Simon H. Rifkind Chair

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The goal of my research is to understand the mechanisms and structures of enzymes that perform and regulate essential nucleic acid transactions. My research integrates diverse experimental approaches (including virology, biochemistry, structural biology, and genetics) and applies them to model systems ranging from viruses to bacteria to fungi to mammalian cells. An explicit aim is to identify novel enzymatic targets for treatment of human diseases.

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## Research Projects

The Stewart Shuman Lab

[RNA ligases and RNA repair](#)

[DNA Damage Recognition and Repair by DNA Ligases](#)

[Deciphering the RNA Polymerase II CTD Code](#)



## Publications Highlights

Schwer, B., Bitton, D.A., Sanchez, A.M., Bähler, J., and Shuman, S. (2014) Individual letters of the RNA polymerase II CTD code govern distinct gene expression programs in fission yeast. *Proc. Natl. Acad. Sci. USA* 111, 4185-4190.

Chakravarty, A.K., Smith, P., Jalan, R., and Shuman, S. (2014) Structure, mechanism, and specificity of a eukaryal tRNA restriction enzyme involved in self-nonsel self discrimination. *Cell Reports* 7, 339-347.

Das, U., Chauleau, M., Ordonez, H., and Shuman, S. (2014) Impact of DNA 3'pp5'G capping on repair reactions at DNA 3' ends. *Proc. Natl. Acad. Sci. USA* 111, 11317-11322.

Unciuleac, M.C., Goldgur, Y., and Shuman, S. (2015) Structure and two-metal mechanism of a eukaryal nick-sealing RNA

ligase. Proc. Natl. Acad. Sci. USA 112, 13868-13873.

Unciuleac, M.C., Goldgur, Y., and Shuman, S. (2017) Two-metal versus one-metal mechanisms of lysine adenylation by ATP-dependent and NAD<sup>+</sup>-dependent polynucleotide ligases. Proc. Natl. Acad. Sci USA 114, 2592-2597.

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## People

### Stewart Shuman, MD, PhD

*Simon H. Rifkind Chair*

The goal of my research is to understand the mechanisms and structures of enzymes that perform and regulate essential nucleic acid transactions.

B.A. Biology (1976) Wesleyan University

Ph.D. Molecular Biology (1983) Albert Einstein College of Medicine

M.D. (1981) Albert Einstein College of Medicine

✉ [s-shuman@ski.mskcc.org](mailto:s-shuman@ski.mskcc.org)

Email Address

☎ [212-639-7145](tel:212-639-7145)

Office Phone

📄 [Download CV](#)

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## Members

Bradley Benjamin  
GSK Graduate Student

Swathi Dantuluri  
Research Fellow

Angad  
Garg  
Senior Research Scientist

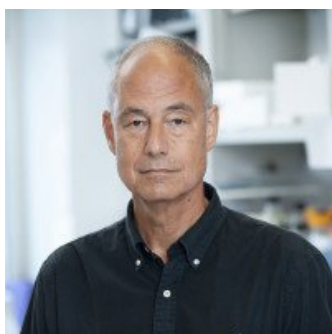
Shreya Ghosh  
Senior Research Scientist



Ana M. Sanchez  
GSK Graduate Student



Garrett  
Warren  
Research Scholar



Stewart Shuman  
Member

Lab Affiliations  
+

## Achievements

Member of the American Academy of Arts and Sciences (2015)  
Fellow of the American Academy of Microbiology (2013)  
NIH MERIT Award (2007)  
American Cancer Society Research Professor (2005 - )  
American Society for Virology, Wolfgang Joklik Lectureship (2004)

Read more  
+

## Get in Touch

✉ [s-shuman@ski.mskcc.org](mailto:s-shuman@ski.mskcc.org)

Lab Head Email

 [212-639-7145](tel:212-639-7145)

Office Phone

 [212-639-7143](tel:212-639-7143)

Lab Phone

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