

CURRICULUM VITAE

JACK GRIFFITH

PERSONAL INFORMATION

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EDUCATION

1964 B.A., Physics, Occidental College, Los Angeles, California.

1969 California Institute of Technology, Biology Department, Ph.D.,
Biology, (James Bonner, advisor).

1969-1970 Cornell University, Ithaca, New York, Department of Applied
Physics, Postdoctoral Fellow, (with Benjamin Siegel).

1970-1973 Stanford University, Stanford, California, Department of
Biochemistry, Postdoctoral Fellow, (with Arthur Kornberg).

RESEARCH AND PROFESSIONAL EXPERIENCE

1986-present: Full Professor, Lineberger Comprehensive Cancer Center, and
Department of Microbiology and Immunology, University of
North Carolina at Chapel Hill.

1978-1986: Associate Professor, Lineberger Comprehensive Cancer Center,
and Department of Microbiology and Immunology, University of
North Carolina at Chapel Hill.

1978-present: Member, Genetics Curriculum, and Program in Molecular Biology
and Biotechnology, University of North Carolina at Chapel Hill.

1973-1977: Research Scientist, Biochemistry Department, Stanford University,
Stanford, California.

PROFESSIONAL SOCIETIES

Biophysical Society
Associated Societies for Biochemistry and Molecular Biology

PROFESSIONAL SERVICE

Editorial Boards

Journal of Biological Chemistry, 2002-2007
re appointed for 2010-2015

National Review Panels:

NIH: Molecular Cytology Study Section: ad Hoc 1985, 1986
NIH: Molecular Biology Study Section: ad hoc 1998
NIH: AIDS/Molecular Biology Study Section: ad hoc 1988
NIH: AIDS/Molecular Biology Study Section: 1989-1994.
NIH: AIDS/Molecular Biology Study Section Chair 1992-1994.
NIH: Site visit to Albany New York National EM center.

Scientific Advisory boards:

Board of Scientific Advisors, Brookhaven National Laboratory, 1996-1998
Advisory Board, Fragile X Advocate, 1996-1999.

International Meetings Organized:

Organized International Meeting on "Physical Approaches to Sequencing the Human Genome" Mt. McKinley Park, Alaska, 1990
Organized First International Meeting on "Unstable triplets, Microsatellites and Human Disease" Santa Fe, New Mexico 1997
Organized Second International Meeting, "Unstable Triplets, Microsatellites and Human disease" Chapel Hill, North Carolina, 1999.
Organized the 2007 Keystone Symposium on DNA Replication and Recombination, Held in Santa Fe, New Mexico.

HONORS AND AWARDS

Elected Fellow, of the American Association for the Advancement of Science, 2001.

Ellison Senior Scholar Award: 2001-2005

Herbert A. Sober Award: Associated Societies for Biochemistry and Molecular Biology, 2002.

Kenan Distinguished Professor, University of North Carolina, 2002 -

Elected to the American Academy of Arts and Sciences 2005

Awarded the Grand Gold Medal of Comenius University, Slovak Republic, 2006

Glenn Foundation Glenn Award. 2007

PUBLICATIONS (JOURNAL ARTICLES)

1. Jack Griffith, Joel Huberman, and Arthur Kornberg. Electron microscopy of DNA polymerase bound to DNA. **J. Mol. Biol.** 55:209-214, 1971.
2. Jack Griffith and James Bonner. Chromatin-like aggregates of Uranyl acetate. **Nature, New Biology** 244:80-81, 1973.
3. David Pratt, Peter Laws, and Jack Griffith. Isolation and characterization of an infected cell complex from M13 infected *E. coli*. **J. Mol. Biol.** 82:425-439, 1974.
4. Jack Griffith and Arthur Kornberg. Mini M13: Circular fragments of phage M13 DNA replicated and packaged during normal infections. **Virology** 59:139-152, 1974.
5. Henk Tabak, Jack Griffith, Klaus Geider, Heinz Schaller and Arthur Kornberg. Initiation of deoxyribonucleic acid synthesis. VII. A unique location of the gap in the M13 replicative duplex synthesized in vitro. **J. Biol. Chem.** 249:3049-3054, 1974.
6. Jack Griffith. Chromatin structure: deduced from a mini-chromosome. **Science** 187:1202-1203, 1975.
7. Jack Griffith, Marianne Dieckmann and Paul Berg. Electron microscopic localization of a protein bound near the origin of SV40 DNA replication. **J. Virol.** 15:167-172, 1975.
8. Jack Griffith. Visualization of prokaryotic DNA in a regularly condensed chromatin-like fiber. **Proc. Natl. Acad. Sci. USA.** 73:563-568, 1976.
9. Gunna Christiansen, Terry Landers, Jack Griffith and Paul Berg. Characterization of components released by alkali disruption of Simian Virus 40. **J. Virol.** 21:1079-1084, 1977.
10. Gunna Christiansen and Jack Griffith. Salt and divalent cations affect the flexible nature of the natural beaded chromatin structure. **Nucleic Acids Res.** 4:1837-1852, 1977.
11. Manfred Albring, Jack Griffith and Guiseppi Attardi. Association of a protein probably of membrane derivation with HeLa cell mitochondrial DNA near its origin of replication. **Proc. Natl. Acad. Sci. USA.** 74:1348-1352, 1977.
12. Shlomo Eisenberg, Jack Griffith and Arthur Kornberg. The ϕ X174 cistron A protein is a multifunctional enzyme in DNA replication. **Proc. Natl. Acad. Sci. USA** 74:3198-3202, 1977.
13. Jack Griffith. Ligation of nicked SV40 DNA in a polyethylene glycol condensed state as a test for net coiling. **Biopolymers** 17:237-241, 1977.

14. Jack Griffith. DNA Structure: Evidence from electron microscopy. **Science** 201:525-527, 1978.
15. Kathi Dunn and Jack Griffith. The presence of RNA in a double helix inhibits its interaction with histone proteins. **Nucleic Acids Research** 8:555-556, 1980.
16. Jack Griffith, Marcy Manning and Kathi Dunn. Filamentous bacteriophage contract into hollow spherical particles upon exposure to a chloroform-water interface. **Cell** 23:747-753, 1981.
17. Marcy Manning, Susan Chrysogelos and Jack Griffith. Mechanism of phage M13 contraction: intermediate structures trapped at low temperatures. **J. Virol.** 40:912-919, 1981.
18. Marcy Manning, Susan Chrysogelos and Jack Griffith. Insertion of bacteriophage M13 phage proteins. **Biophysical Journal** 37:28-31, 1981.
19. Jack Griffith, Susan Hester and Salma El-Saidy. A duplex structure involving two noncomplementary DNA strands can be formed and stabilized by M13 phage proteins. **J. Mol. Biol.** 157:321-330, 1981.
20. Kathi Dunn, Susan Chrysogelos and Jack Griffith. EM visualization of RecA-DNA filaments: evidence for a cyclic extension of duplex DNA. **Cell** 28:757-765, 1982.
21. Claire Moore, Jack Griffith and James Shaw. Filamentous structures associated with EBV-infected cells. **J. Virol.** 43:305-313, 1982.
22. Susan Chrysogelos and Jack Griffith. *E. coli* single strand DNA binding protein organizes single stranded DNA in nucleosome-like units. **Proc. Natl. Acad. Sci. USA** 79:5803-5807, 1982.
23. Claire Moore, Lenny Klevan, James Wang and Jack Griffith. Gyrase-DNA complexes visualized as looped structures by electron microscopy. **J. Biol. Chem.** 258:4612-4617, 1983.
24. Claire Moore and Jack Griffith. A method for mapping restriction endonuclease cleavage sites on large DNAs by electron microscopy. **Gene** 24:191-198, 1983.
25. Susan Chrysogelos, James Register and Jack Griffith. The structure of RecA-protein-DNA filaments: 2 RecA protein monomers unwind 17 base pairs of DNA by 11.5 degrees in the presence of ATP γ S. **J. Biol. Chem.** 258:12624-12631, 1983.
26. Marcy Manning, M. Moore, Linda Spremulli and Jack Griffith. Coat protein conformation in M13 filaments, I-forms and spheroids. **Biochem. Biophys. Res Comm.** 12:349-355, 1983.
27. Joan Sperrazza, James Register and Jack Griffith. Electron microscopy can be used to measure DNA supertwisting. **Gene** 31:17-22, 1984.

28. Jack Griffith and Carol Shores. The RecA protein rapidly crystallizes in the presence of spermidine: a valuable step in its purification and physical characterization. **Biochemistry** 24:158-162, 1985.
29. Marcy Manning and Jack Griffith. Association of M13 I-forms and spheroids with lipid vesicles. **Arch. Biochem. Biophys.** 236:297-303, 1985.
30. Jack Griffith and Timothy Formosa. The uvsX protein of bacteriophage T4 arranges single stranded and double stranded DNA into similar helical nucleoprotein filaments. **J. Biol. Chem.** 260:4484-4491, 1985.
31. Jack Griffith and Howard Nash. Genetic rearrangements of DNA induces knots with a unique topology: implication for the mechanism of synapsis and crossing over. **Proc. Natl. Acad. Sci. USA.** 82:3124-3128, 1985.
32. James Register and Jack Griffith. The 10 nm RecA protein filaments formed in the presence of Mg⁺⁺ and ATPγS may contain RNA. **Mol. and Gen. Genetics** 199: 415-420. 1985.
33. James Register and Jack Griffith. The direction of RecA protein assembly onto single stranded DNA is the same as the direction of strand assimilation during strand exchange. **J. Biol. Chem.** 260:12, 308- 312, 1985.
34. James Register and Jack Griffith. RecA Protein filaments can juxtapose DNA ends: An activity that may reflect a function in DNA repair. **Proc. Natl. Acad. Sci. USA** 83:624-628, 1986.
35. Gunna Christiansen and Jack Griffith. Visualization of the paranemic joining of homologous DNA molecules catalyzed by the RecA protein of *Escherichia coli*. **Proc. Natl. Acad. Sci. USA** 83:2066-2070, 1986.
36. Jack Griffith, Michael Bleyman, Carol Rauch, Peter Kitchin, and Paul Englund. Visualization of the bent helix in kinetoplast DNA by electron microscopy. **Cell** 46:717-724, 1986.
37. Jack Griffith, Ann Hochschild and Mark Ptashne. DNA loops induced by cooperative binding of lambda repressor. **Nature** 322:750-752, 1986.
38. James Register, Gunna Christiansen and Jack Griffith. Electron microscopic visualization of the pairing and branch migration phases of strand exchange. **J. Biol. Chem.** 12812-12820, 1987.
39. Lorelli Harris and Jack Griffith. Visualization of the homologous pairing of DNA catalyzed by the bacteriophage uxsX protein. **J. Biol. Chem.** 262:9285-9292, 1987.

40. Caroline Laundon and Jack Griffith. Cationic metals promote sequence-directed DNA bending. **Biochemistry** 26:3759-3762, 1987.
41. Caroline Laundon and Jack Griffith. Curved helix segments can uniquely orient the topology of supertwisted DNA. **Cell** 52: 545-549, 1988.
42. Hsilin Hsieh and Jack Griffith. The terminus of SV40 DNA replication and transcription contains a sharp sequence-directed curve. **Cell** 52: 535-544, 1988.
43. Instar Husain, Jack Griffith and Aziz Sancar. Thymine dimers bend DNA. **Proc. Natl. Acad. Sci. USA** 85:2558-2562, 1988.
44. Kathy Ryan, Theresa Shapiro, Carol Rauch, Jack Griffith and Paul Englund. A knotted free minicircle in Kinetoplast DNA. **Proc. Natl. Acad. Sci. USA** 85:5844-5848, 1988.
45. Robin Reed, Jack Griffith and Tom Maniatis. Purification and visualization of native spliceosomes. **Cell** 53:949-961, 1988.
46. James Register and Jack Griffith. Direct visualization of RecA protein binding to and unwinding duplex DNA following the D-loop cycle. **J. Biol. Chem.** 263:11029-11032, 1988.
47. Randy Thresher, Gunna Christiansen and Jack Griffith. Assembly of Presynaptic filaments: factors affecting the assembly of RecA protein onto single stranded DNA. **J. Mol. Biol.** 201:101-113, 1988.
48. Y-B Shi, Jack Griffith and John Hearst. Effects of covalent additions of a psoralen on the structure of double-stranded nucleic acids. **Nuc. Acids. Res.** 16:8945-8952, 1988.
49. Steven Brenner, Alan Zlotnick and Jack Griffith. RecA protein self-assembly: Multiple Discrete Aggregation States. **J. Mol. Biol.** 204:959-972, 1988.
50. Lorelli Harris and Jack Griffith. Interaction of UvsX and gene 32 proteins in the catalysis of DNA strand exchange. **Biochemistry** 27:6954-6959, 1988.
51. Lorelli Harris and Jack Griffith. The UvsY protein of Bacteriophage T4 is an accessory protein for in vitro catalysis of strand exchange. **J. Mol. Biol.** 206:19-27, 1989.
52. Shin-San Su, Michelle Grilley, Randy Thresher, Jack Griffith and Paul Modrich. Gap Formation is associated with Methyl-directed mismatch correction under conditions of restricted DNA synthesis. **Genome** 21:104-111, 1989.
53. Hsilin Hsieh and Jack Griffith. Deletions of bases in one strand of duplex DNA, in contrast to single-base mismatches, produce highly kinked molecules: possible relevance to the folding of single-stranded nucleic acids. **Proc. Natl. Acad. Sci. USA** 86:4833-4837, 1989.

54. John Heuser and Jack Griffith. Visualization of RecA protein and its complexes with DNA by quick-freeze/deep-etch electron microscopy. **J. Mol. Biol.** 210:473-484, 1989.
55. Randy Thresher and Jack Griffith. Intercalators promote the binding of RecA protein to double stranded DNA. **Proc. Natl. Acad. Sci. USA** 87:5056-5060, 1990.
56. Carl Bortner and Jack Griffith. Three-stranded Paranemic Joints: Architecture, Topological Constraints, and Movement. **J. Mol. Biol.** 215:623-634, 1990.
57. Michael Howard, M.P. Lee, Tao Hsieh and Jack Griffith. Drosophila topoisomerase II-DNA interactions are affected by DNA structure. **J. Mol. Biol.** 217:53-62, 1991.
58. Yuh-Hwa Wang and Jack Griffith. The effects of bulge composition and flanking sequence on the kinking of DNA by bulged bases. **Biochemistry** 30:1359-1363, 1991.
59. Michael Topal, Randy Thresher, Michael Conrad and Jack Griffith. NaeI Endonuclease binding to PBR322 DNA induces looping. **Biochemistry** 30: 2006-2010, 1991.
60. Yuh-Hwa Wang, Michael Howard and Jack Griffith. Phased adenine tracts in double stranded RNA do not induce sequence-directed bending. **Biochemistry** 30: 5443-5449, 1991.
61. Yuh-Hwa Wang, Peter Barker and Jack Griffith. Visualization of diagnostic heteroduplex DNAs from cystic fibrosis deletion heterozygotes provides an estimate of the kinking of DNA by bulged bases. **J. Biol. Chem.** 267: 4911-4915, 1992.
62. Qing Shi, Randy Thresher, Aziz Sancar and Jack Griffith. An electron microscopic study of (A)BC excinuclease: DNA is sharply bent in the UVRB-DNA complex. **J. Mol. Biol.** 226: 425-432, 1992.
63. Y-T Kim, Stan Tabor, Carl Bortner, Jack Griffith and Charles Richardson. Purification and characterization of the bacteriophage T7 gene 2.5 protein: a single strand DNA binding protein. **J. Biol. Chem.** 267: 15032-15040, 1992.
64. Eric Alani, Randy Thresher, Jack Griffith and Richard Kolodner. Characterization of DNA binding and strand exchange stimulation properties of γ -RPA, a yeast single strand DNA binding protein. **J. Mol. Biol.** 227: 54-71, 1992.
65. Michael Howard, Kathleen Sandman, John, Reeve and Jack Griffith. HMF, a histone related protein from the hyperthermophilic archeon *Methanothermus Fervidus* binds preferentially to DNA containing phased tracts of adenines. **J. Bact.** 174:7864-7867, 1993.
66. Janet Pinsince and Jack Griffith. Early stages in RecA protein-catalyzed pairing: analysis of coaggregate formation and non-homologous DNA contacts. **J. Mol. Biol.** 228: 409-420, 1993.
67. Carl Bortner, Thomas Hernandez, I. Robert Lehman and Jack Griffith. The Herpes

- Simplex virus 1 single strand DNA binding protein (ICP8) will promote homologous pairing and strand transfer. **J. Mol. Biol.** 231: 241-250, 1993.
68. Elliott Crooke, Randy Thresher, Deog Su Hwang, Jack Griffith and Arthur Kornberg. Replicatively active complexes of DnaA protein and the *E. coli* chromosomal origin observed in the electron microscope. **J. Mol. Biol.** 233: 16-24, 1993.
 69. Michelle Grilley, Jack Griffith and Paul Modrich. Bidirectional excision in methyl directed mismatch repair. **J. Biol. Chem.** 268: 11830-11837, 1993.
 70. Yuh-Hwa Wang, Carl Bortner and Jack Griffith. RecA binding to bulge and mismatch containing DNA: certain single base mismatches provide signals for RecA binding equal to multiple base bulges. **J. Biol. Chem.** 268: 17571-17577, 1993.
 71. Janet Pinsince, Katerina Muench, Floyd Bryant and Jack Griffith. Two mutant recA proteins possessing pH-dependent strand exchange activity exhibit pH-dependent presynaptic filament formation. **J. Mol. Biol.** 233: 59-66, 1993.
 72. Michael Howard and Jack Griffith. A cluster of strong topoisomerase II cleavage sites of located near an integrated human immunodeficiency virus. **J. Mol. Biol.** 232: 1060-1068, 1993.
 73. Yuh-Hwa Wang, Felicia Murphy, Thomas Cech and Jack Griffith. Visualization of a tertiary structural domain of the Tetrahymena group I intron by electron microscopy. **J Mol. Biol.** 236: 64-71, 1994.
 74. Jack Griffith, Alexander Makhov, Leticia Santiago-Lara and Peter Setlow. Electron microscope studies of the interaction between a *Bacillus subtilis* a/b type small acid soluble spore protein with DNA: protein binding is cooperative, stiffens the DNA and induces negative supercoiling. **Proc. Natl. Acad. Sci. USA** 91: 8224-8228, 1994.
 75. Scott Stevens and Jack Griffith. HIV-1 may preferentially integrate into chromatin occupied by L1Hs repetitive elements. **Proc. Natl. Acad. Sci. USA** 91: 5557-5561, 1994.
 76. Yuh-Hwa Wang, Sorour Amirhaeri, Seongman Kang, Robert Wells and Jack Griffith. Preferential Nucleosome Assembly at DNA Triplet Repeats from the Myotonic Dystrophy gene. **Science** 265: 669-671, 1994.
 77. Felicia L. Murphy, Yuh-Hwa Wang, Jack Griffith and Thomas Cech. Coaxially Stacked RNA Helices in the Catalytic center of the Tetrahymena Ribozyme. **Science** 265: 1709-1712, 1994.
 78. David Hsu, Mayayuki Takahashi, Emmanuelle Delagoutte, Elisabeth Bertrand-Burrgraf, Yuh Hwa Wang, Bengt Norden, Robert Fuchs, Jack Griffith and Aziz Sancar. Flow Linear dichroism and Electron Microscopic analysis of protein-DNA complexes of a Mutant UvrB protein that binds to but cannot kink DNA. **J. Mol. Biol.** 241: 645-650, 1994.

79. Richard Fishel, Amy Ewel, Suman Lee, Mary Kay Lescoe and Jack Griffith. Binding of Mismatches Microsatellite DNA Sequences by the Human MSH2 Protein. **Science** 266: 1403-1405, 1994.
80. Yuh-Hwa Wang and Jack Griffith. Expanded CTG Triplet Blocks from the Myotonic Dystrophy Gene Create the Strongest Known Natural Nucleosome Positioning Elements. **Genomics** 25: 570-574, 1995.
81. Robert Zeller, Jack Griffith, James Moore, Carmen Kirchhamer, Roy Britten and Eric Davidson. A multimerizing transcriptional activator of sea urchin embryos capable of looping DNA. **Proc. Natl. Acad. Sci. USA** 92: 2989-2993, 1995.
82. Jack Griffith, Alexander Makhov, Leigh Zawel and Danny Reinberg. Visualization of TBP Oligomers Binding and Bending the HIV-1 and Adeno Promoters. **J. Mol. Biol.** 246: 576-584, 1995.
83. Suman Lee, Brian Elenbaas, Arnold Levine and Jack Griffith. p53 and its 14 kDa C terminal domain recognize primary DNA damage in the form of insertion/deletion mismatches. **Cell** 81: 1013-1020, 1995.
84. Stephen Notarnicola, Kyusung Park, Jack Griffith and Charles Richardson. A domain of the gene 4 helicase/primase of bacteriophage T7 required for the formation of an active hexamer. **J. Biol. Chem.** 270: 20215-20224, 1995.
85. Toru Nakamura, Yuh Hwa Wang, Arthur Zaug, Jack Griffith and Thomas Cech. Relative orientation of RNA helices in a group I ribozyme determined by helix extension electron microscopy. **EMBO J.** 14: 4849-4859, 1995.
86. Sherry Stanfield-Oakley and Jack Griffith. MPE-Fe(II) Cleavage of HIV-1 Chromatin reveals regions of Nucleosome-Free DNA. **J. Mol. Biol.** 256: 503-516, 1996.
87. Randy Thresher, Alexander Makhov, Sharynn Hall, Richard Kolodner and Jack Griffith. Electron Microscopic analysis of RecT protein-DNA interactions. **J. Mol. Biol.** 254: 364-371, 1996.
88. Alexander Makhov, Paul Boehmer, I. Robert Lehman and Jack Griffith. The Herpes Simplex Virus type I UL9 protein carries out origin specific DNA unwinding and forms stem/loop structures. **EMBO J.** 15: 1742-1750, 1996.
89. Rami Skaliter, Alexander Makhov, Jack Griffith and I. Robert Lehman. Rolling Circle DNA replication by a complex of Herpes Simplex Virus type I encoded enzymes: Analysis of products. **J. Virol.** 70: 1132-1136, 1996.
90. Alexander Makhov, Paul Boehmer, I. Robert Lehman and Jack Griffith. Visualization of the Unwinding of Long DNA Chains by the Herpes Simplex Virus type-I UL9 and ICP8. **J. Mol. Biol.** 258: 789-799, 1996.
91. Scott Stevens and Jack Griffith. Sequence analysis of the human DNA flanking sites of

- HIV-1 integration. **J. Virol.** 70: 6459-6462. 1996.
92. Yuh-Hwa Wang and Jack Griffith. The [(G/C)₃NN]_n motif: a common DNA repeat that excludes nucleosomes. **Proc. Natl. Acad. Sci. USA** 93: 8863-8867. 1996.
 93. Mensur Dlakic, Kyusung Park, Jack Griffith, Stephen Harvey and Rodney Harrington. The organic crystallizing agent MPD reduces DNA curvature by means of structural changes in A tracts. **J. Biol. Chem.** 271: 17911. 1996.
 94. Yuh-Hwa Wang and Jack Griffith. Methylation of Expanded CCG Triplet Repeat DNA from Fragile X Syndrome Patients Enhances Nucleosome Exclusion. **J. Biol. Chem.** 271: 22937-22940. 1996.
 95. Yuh-Hwa Wang, Robert Gellibolian, Miho Shimizu, Robert D. Wells, and Jack Griffith. Long CCG Triplet Repeat Blocks Exclude Nucleosomes: A Possible Mechanism for the Nature of Fragile Sites in Chromosomes. **J. Mol. Biol.** 263: 511-516. 1996.
 96. Eric Alani, Suman Lee, Michael Kane, Jack Griffith, and Richard Kolodner. *Saccharomyces cerevisiae* MSH2, a mispaired base recognition protein also recognizes Holliday junctions in DNA. **J. Mol. Biol.** 265: 289-301. 1997.
 97. Suman Lee, Lora Cavallo and Jack Griffith. Human p53 Binds Holliday Junctions and Strongly and Facilitates Their Cleavage. **J. Biol. Chem.** 272: 7532-7539, 1997.
 98. Daochun Kong, Jack D. Griffith and Charles C. Richardson. Gene 4 helicase of bacteriophage T7 mediates strand transfer through pyrimidine dimers, mismatches, and non-homologous regions. **Proc. Natl. Acad. Sci. USA.** 94: 2987-2992, 1997.
 99. Dwayne Allen, Alexander Makhov, Michelle Grilley, John Taylor, Randy Thresher, Paul Modrich, and Jack Griffith. MutS Mediates Heteroduplex Formation by a Translocation Mechanism. **EMBO J.** 16: 4467-4476. 1997.
 100. Tae-Kyung Kim, Thierry Lagrange, Yuh Hwa Wang, Jack D. Griffith, Danny Reinberg and Richard H. Ebright. Trajectory of DNA in the RNA Polymerase II transcription preinitiation complex. **Proc. Natl. Acad. Sci. USA.** 94: 12268-12273. 1997.
 101. Kyusung Park, Zeger Debyser, Stanley Tabor, Charles C. Richardson, and Jack D. Griffith. Formation of a DNA Loop at the Replication Fork Generated by Bacteriophage T7 Replication Proteins. **J. Biol. Chem.** 273: 5260-5270. 1998.
 102. Christopher E. Pearson, Yuh Hwa Wang, Jack D. Griffith, and Richard R. Sinden. Structural Analysis of Slipped-Strand DNA (S-DNA) formed in (CTG)_n-(CAG)_n Repeats from the Myotonic Dystrophy Locus. **Nucleic Acids Research.** 26: 816-823. 1998.
 103. Jack Griffith, Alessandro Bianchi, and Titia de Lange. TRF1 Promotes Parallel Pairing of Telomeric Tracts in Vitro. **J. Mol. Biol.** 278: 79-88. 1998.
 104. Joonsee Lee, Paul Chastain II, Takahiro Kusakabe, Jack D. Griffith, and Charles C.

- Richardson. Coordinated Leading and lagging strand DNA synthesis on a mini-circular template. **Molecular Cell**, 1: 1001-1010. 1998.
105. Jen-Sing Liu, Shu-Ru Kuo, Alexander M. Makhov, Douglas M. Cyr Jack D. Griffith, Thomas R. Broker, and Louise T. Chow. Human Hsp70 and Hsp40 Chaperone Proteins Facilitate HPV-11 E1 Protein Binding to the Origin and Stimulate Cell-free Replication. **J. Biol. Chem.** 273: 30704-30712. 1998.
 106. Amareth Lim, Matthew Saderholm, Alexander Makhov, Mathias Kroll, Yibing Yan, Lalith Perera, Jack D. Griffith and Bruce W. Erickson. Engineering of betabellin 15D: a 64 residue beta-sheet protein that forms long narrow multimeric fibrils. **Protein Science**, 7: 1545-1554. 1998.
 107. Amareth Lim, Philippe, A. Guy, Alexander Makhov, Matthew Saderholm, Mathias Kroll, Yibing Yan, Jack D. Griffith, Robert J. Andergg, and Bruce W. Erickson. Engineering of betabellin 15D: Copper(II)-induced folding of a fibrillar beta-sandwich protein. **Letters in Peptide Science**. 6:3-14, 1999.
 108. Peter Cherepanov, David Surratt, Jaan Toelen, Wim Pluymers, Jack Griffith, Erik DeClercq and Zeger Debyser. Activity of Recombinant HIV-1 Integrase on mini-HIV DNA. **Nuc. Acids. Res.** 27: 2202-2210. 1999.
 - 109 Gerald T. Marsischky, Suman Lee, Jack Griffith, and Richard D. Kolodner *Saccharomyces cerevisiae* MSH2/6 complex interacts with Holliday junctions and facilitates their cleavage by phage resolution enzymes. **J. Biol. Chem.** 274. 7200-7206. 1999.
 110. Scott Gradia, Deepa Subramanian, Teresa Wilson, Samir Acharya, Alexander Makhov, Jack Griffith, and Richard Fishel, hMSH2-hMSH6 Forms a Hydrolysis-Independent Sliding Clamp on Mismatched DNA. **Mol. Cell**: 3, 255-261. 1999.
 111. Naoaki Sakamoto, Paul D. Chastain, Pawel Parniewski, Keiichi Ohshima, Massimo Pandolfo, Jack D. Griffith, and Robert D. Wells. Sticky DNA: Self-Association Properties of Long GAA/TTC Repeats in R·R·Y Triplex Structures From Friedreich's Ataxia. **Mol Cell**: 3:465- 475. 1999.
 112. Jack Griffith, Laurey Comeau, Soraya Rosenfield, Rachel Stancel, Heidi Moss, Alessandro Bianchi, and Titia de Lange. Mammalian telomeres end in a large duplex loop. **Cell**: 97, 503-514. 1999.
 113. Marila Cordeiro-Stone, Alexander Makhov, Liubov S. Zaritskaya, and Jack D. Griffith. Analysis of DNA Replication Forks Encountering a Pyrimidine Dimer in the Template to the Leading Strand. **J. Mol. Biol.** 289, 1207-1218. 1999.
 114. David T. Kirpatrick, Yuh-Hwa Wang, Margaret Dominska, Jack D. Griffith and Thomas D. Petes. Control of meiotic recombination and gene expression in yeast by a simple repetitive DNA sequence that excludes nucleosomes. **Mol. Cell. Biol.**, 97: 7661-7671. 1999.

115. Susan Michalowski, Jill W. Miller, Carl R. Urbinati, Miltiadis Paliouras, Maurice Swanson, and Jack Griffith. Visualization of double-stranded RNAs from the myotonic dystrophy kinase gene and interactions with CUG-binding protein. **Nuc. Acids. Res.** 27: 3534-3542. 1999.
116. Amareth Lim, Alexander Makhov, Matthew Saderholm, Jack D. Griffith and Bruce W. Erickson. Biophysical Characterization of Betabellin 16D: A beta Sandwich Protein that Forms Narrow Fibrils which Associate into Broad Ribbon. **Biochem. Biophys. Res. Comm.** 264: 498-504. 1999.
117. Alessandro Bianchi, Rachel Stansel, Lousie Fairall, Jack D. Griffith, Daniela Rhodes, and Titia de Lange. TRF1 binds a bipartite site with extreme spatial flexibility. **EMBO J.** 18: 5735-5744. 1999.
118. Amareth Lim, Matthew Saderholm, Alexander Makhov, Mathias Kroll, Yibing Yan, Lalith Perera, Jack D. Griffith and Bruce W. Erickson. Engineering of betabellin 15D: a 64 residue beta-sheet protein that forms long narrow multimeric fibrils. **Protein Science**, 7: 1545-1554. 1998.
119. Daniel G. Lee, Alexander M. Makhov, Richard D. Klemm, Jack D. Griffith, and Stephen P. Bell. Regulation of ORC conformation and ATPase Activity: differential effects of single-stranded and double-stranded DNA binding **EMBO J.** 19: 4774-4782, 2000.
120. Rajesh Bagga, Susan Michalowski, Rohit Sabnis, Jack D. Griffith, and Beverly M. Emerson. Long-Range Enhancer-Dependent Activation and Promoter repression by HMB I/Y -Mediated changes in DNA Topology. **Nuc. Acids. Res.** 28: 2541-2550.
121. Amareth Lim, Alexander M. Makhov, Jeremy Bond, Hideyo Inoye, Lawreen H. Conners, Jack D. Griffith, Bruce W. Erickson, Daniel A. Kirschner, and Catherine E. Costello. Betabellins 15D and 16D, De Novo Designed Beta-Sandwich Proteins That Have Amyloidogenic Properties. **Journal of Structural Biology.** 130: 363-370. 2000.
122. Paul D. Chastain, Alexander M. Makhov, Nancy G. Nossal, and Jack D. Griffith. Analysis of the Okazaki Fragment Distributions along Single Long DNAs Replicated by the Bacteriophage T4 Proteins. **Molecular Cell.** 6: 803-814, 2000.
123. Lubomir Tomaska, Alexander M. Makhov, Jozef Nosek, Blanka Kucejova, and Jack D. Griffith. Electron microscopic analysis supports a dual role for the mitochondrial telomere-binding protein of *Candida parapsilosis*. **J. Mol. Biol.** 305: 61-69, 2001.
124. Lubomir Tomaska, Jozef Nosek, Alexander M. Makhov, Andrea Pastorakova, and Jack D. Griffith. Extragenomic double-stranded DNA circles in yeast with linear mitochondrial genomes: Potential involvement in telomere maintenance. **Nucleic Acids Research**, 28: 4479-4487, 2000.
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