

Gerry Smith Publications

1971-1999

- Hong J-S, Smith GR, Ames BN. Adenosine 3':5'-cyclic monophosphate concentration in the bacterial host regulates the viral decision between lysogeny and lysis. *Proc Natl Acad Sci USA* 1971; **68**: 2258-2262.
- Smith GR. Specialized transduction of the *Salmonella hut* operons by coliphage λ : Deletion analysis of the *hut* operons employing λ *phut*. *Virology* 1971; **45**: 208-223.
- Smith GR, Halpern YS, Magasanik B. Genetic and metabolic control of enzymes responsible for histidine degradation in *Salmonella typhimurium*. *J Biol Chem* 1971; **246**: 3320-3329.
- Smith GR, Magasanik B. Nature and self-regulated synthesis of the repressor of the *hut* operons in *Salmonella typhimurium*. *Proc Natl Acad Sci USA* 1971; **68**: 1493-1497.
- Smith GR, Magasanik B. The two operons of the histidine utilization system in *Salmonella typhimurium*. *J Biol Chem* 1971; **246**: 3330-3341.
- Singer CE, Smith GR. Histidine regulation in *Salmonella typhimurium*: XIII. Nucleotide sequence of histidine transfer ribonucleic acid. *J Biol Chem* 1972; **247**: 2989-3000.
- Singer CE, Smith GR, Cortese R, Ames BN. Mutant tRNA^{His} ineffective in repression and lacking two pseudouridine modifications. *Nature New Biol* 1972; **238**: 72-74.
- Smith GR, Tong B. Construction of ϕ 80dhis carrying *Salmonella typhimurium* histidine operon mutations. *J Bacteriol* 1974; **120**: 1223-1226.
- Smith GR. Deletion mutations of the immunity region of coliphage λ . *Virology* 1975; **64**: 544-552.
- Smith GR, Hedgpeth J. Oligo (A) not coded by DNA generating 3'-terminal heterogeneity in a λ phage RNA. *J Biol Chem* 1975; **250**: 4818-4821.
- Smith GR, Eisen H, Reichardt L, Hedgpeth J. Deletions of lambda phage locating a *prm* mutation within the rightward operator. *Proc Natl Acad Sci USA* 1976; **73**: 712-716.

- Sprague KU, Faulds DH, Smith GR. A single base-pair change creates a Chi recombinational hotspot in bacteriophage λ . *Proc Natl Acad Sci USA* 1978; **75**: 6182-6186.
- Cseko YM, Dower NA, Minoo P, Lowenstein L, Smith GR, Stone J, Sederoff R. Evolution of polypyrimidines in *Drosophila*. *Genetics* 1979; **92**: 459-484.
- Smith GR, Faulds DH, Sprague KU. Nucleotide-sequence analysis of a Chi site. *Cold Spring Harbor Symp Quant Biol* 1979; **43**: 1067-1068.
- Smith GR, Kunes SM, Schultz DW, Taylor A, Triman KL. Nucleotide sequence of Chi recombinational hotspots. In: Alberts B, Fox CF, eds. *Mechanistic Studies of DNA Replication and Genetic Recombination* (ICN-UCLA Symp Mol Cell Biol, Vol. 19). NY: Academic Press, 1980: 927-932.
- Smith GR, Schultz DW, Crasemann JM. Generalized recombination: Nucleotide sequence homology between Chi recombinational hotspots. *Cell* 1980; **19**: 785-793.
- Taylor A, Smith GR. Unwinding and rewinding of DNA by Exonuclease V. In: Alberts B, Fox CF, eds. *Mechanistic Studies of DNA Replication and Genetic Recombination* (ICN-UCLA Symp Mol Cell Biol, Vol. 19). NY: Academic Press, 1980: 909-918.
- Taylor A, Smith GR. Unwinding and rewinding of DNA by the RecBC enzyme. *Cell* 1980; **22**: 447-457.
- Schultz DW, Swindle J, Smith GR. Clustering of mutations inactivating a Chi recombinational hotspot. *J Mol Biol* 1981; **146**: 275-286.
- Smith GR. DNA supercoiling: Another level for regulating gene expression. *Cell* 1981; **24**: 599-600.
- Smith GR, Comb M, Schultz DW, Daniels D, Blattner FR. Nucleotide sequence of the Chi recombinational hotspot χ^+D in bacteriophage λ . *J Virol* 1981; **31**: 336-342.
- Smith GR, Kunes SM, Schultz DW, Taylor A, Triman KL. Structure of Chi hotspots of generalized recombination. *Cell* 1981; **24**: 429-436.
- Smith GR, Schultz DW, Taylor AF, Triman KL. Chi sites, RecBC enzyme, and generalized recombination. *Stadler Genetics Symp* 1981; **13**: 25-37.
- Triman KL, Chatteraj DK, Smith GR. Identity of a Chi site of *Escherichia coli* and Chi recombinational hotspots of bacteriophage λ . *J Mol Biol* 1982; **154**: 393-398.

- Owen JE, Schultz DW, Taylor A, Smith GR. Nucleotide sequence of the lysozyme gene of bacteriophage T4: Analysis of mutations involving repeated sequences. *J Mol Biol* 1983; **165**: 229-248.
- Schultz DW, Taylor AF, Smith GR. *Escherichia coli* RecBC pseudorevertants lacking Chi recombinational hotspot activity. *J Bacteriol* 1983; **155**: 664-680.
- Smith GR. Chi hotspots of generalized recombination. *Cell* 1983; **34**: 709-710.
- Smith GR. General recombination. In: Hendrix RW, Roberts JW, Stahl FW, Weisberg RA, eds. *Lambda II*. NY: Cold Spring Harbor Press, 1983: 175-209.
- Chaudhury AM, Smith GR. A new class of *Escherichia coli* recBC mutants: Implications for the role of RecBC enzyme in homologous recombination. *Proc Natl Acad Sci USA* 1984; **81**: 7850-7854.
- Chaudhury AM, Smith GR. *Escherichia coli* recBC deletion mutants. *J Bacteriol* 1984; **160**: 788-791.
- Cheng KC, Smith GR. Recombinational hotspot activity of Chi-like sequences. *J Mol Biol* 1984; **180**: 371-377.
- Lundblad V, Taylor AF, Smith GR, Kleckner N. Unusual alleles of *recB* and *recC* stimulate excision of inverted repeat transposons Tn10 and Tn5. *Proc Natl Acad Sci USA* 1984; **81**: 824-828.
- Smith GR, Amundsen SK, Chaudhury AM, Cheng KC, Ponticelli AS, Roberts CM, Schultz DW, Taylor AF. Roles of RecBC enzyme and Chi sites in homologous recombination. *Cold Spring Harbor Symp Quant Biol* 1984; **49**: 485-495.
- Chaudhury AM, Smith GR. Role of *Escherichia coli* RecBC enzyme in SOS induction. *Mol Gen Genet* 1985; **201**: 525-528.
- Ponticelli AS, Schultz DW, Taylor AF, Smith GR. Chi-dependent DNA strand cleavage by RecBC enzyme. *Cell* 1985; **41**: 145-151.
- Taylor AF, Schultz DW, Ponticelli AS, Smith GR. RecBC enzyme nicking at Chi sites during DNA unwinding: Location and orientation-dependence of the cutting. *Cell* 1985; **41**: 153-163.
- Smith GR. Homologous recombination: The roles of Chi sites and RecBC enzyme. In: Scaife J, Leach D, Galizzi A, eds. *Genetics of Bacteria*. NY: Academic Press, 1985: 239-253.

- Smith GR. Site-specific recombination. In: Scaife J, Leach D, Galizzi A, eds. *Genetics of Bacteria*. NY: Academic Press, 1985: 147-163.
- Beckwith JR, Galizzi A, Smith GR. The tools of bacterial genetics. In: Scaife J, Leach D, Galizzi A, eds. *Genetics of Bacteria*. NY: Academic Press, 1985: 1-23.
- Smith GR, Stahl FW. Homologous recombination promoted by Chi sites and RecBC enzyme of *Escherichia coli*. *BioEssays* 1985; **2**: 244-249.
- Taylor AF, Smith GR. Substrate specificity of the DNA unwinding activity of the RecBC enzyme of *Escherichia coli*. *J Mol Biol* 1985; **185**: 431-443.
- Smith GR, Roberts CM, Schultz DW. Activity of Chi recombinational hotspots in *Salmonella typhimurium*. *Genetics* 1986; **112**: 429-439.
- Schultz DW, Smith GR. Conservation of Chi cutting activity in terrestrial and marine enteric bacteria. *J Mol Biol* 1986; **189**: 585-595.
- Amundsen SK, Taylor AF, Chaudhury AM, Smith GR. *recD*: The gene for an essential third subunit of exonuclease V. *Proc Natl Acad Sci USA* 1986; **83**: 5558-5562.
- Ennis DG, Amundsen SK, Smith GR. Genetic functions promoting homologous recombination in *Escherichia coli*: A study of inversions in phage λ . *Genetics* 1987; **115**: 11-24.
- Smith GR, Amundsen SK, Cheng KC, McKittrick NH, Ponticelli AS, Schultz DW, Taylor AF, Thibodeaux SM. Mechanism and control of homologous recombination. In: Kelly T, McMacken R, eds. *Mechanisms of DNA Replication and Recombination*. NY: Liss, 1987: 567-583.
- Cheng KC, Smith GR. Cutting of Chi-like sequences by the RecBCD enzyme of *Escherichia coli*. *J Mol Biol* 1987; **194**: 747-750.
- Smith GR. Homologous recombination in prokaryotes. *Microbiol Rev* 1987; **52**: 1-28.
- Smith GR. Mechanism and control of homologous recombination in *Escherichia coli*. *Annu Rev Genet* 1987; **21**: 179-201.
- Smith GR. Homologous recombination sites and their recognition. In: Low KB, ed. *The Recombination of Genetic Material*. NY: Academic Press; 1988: 115-154.
- Ponticelli AS, Sena EP, Smith GR. Genetic and physical analysis of the M26 recombination hotspot of *Schizosaccharomyces pombe*. *Genetics* 1988; **119**: 491-497.

- Kucherlapati R, Smith GR (eds.) *Genetic Recombination*. Washington, DC; American Society for Microbiology 1988.
- Braedt G, Smith GR. Strand specificity of DNA unwinding by RecBCD enzyme. *Proc Natl Acad Sci USA*, 1989; **86**: 871-875.
- Smith GR. Homologous recombination in prokaryotes: Enzymes and controlling sites. *Genome*, 1989; **31**: 520-527.
- Cheng KC, Smith, GR. Distribution of Chi-stimulated recombinational exchanges and heteroduplex endpoints in phage lambda. *Genetics* 1989; **123**: 5-17.
- Ponticelli AS, Smith GR. Meiotic recombination-deficient mutants of *Schizosaccharomyces pombe*. *Genetics* 1989; **123**: 45-54.
- Smith GR. Homologous recombination in *E. coli*: Multiple pathways for multiple reasons. *Cell* 1989; **58**: 807-809.
- McKittrick NH, Smith GR. Activation of Chi recombinational hotspots by RecBCD-like enzymes from enteric bacteria. *J Mol Biol* 1989; **210**: 485-495.
- Taylor AF, Smith GR. Action of RecBCD enzyme on cruciform DNA. *J Mol Biol* 1990; **211**: 117-134.
- Smith GR. RecBCD enzyme. In: Eckstein F, Lilley DMJ, eds. *Nucleic Acids and Molecular Biology*, vol 4. Berlin: Springer-Verlag; 1990 79-98.
- Amundsen SK, Neiman AM, Thibodeaux SM, Smith GR. Genetic dissection of the biochemical activities of RecBCD enzyme. *Genetics* 1990; **126**: 25-40.
- Smith, GR. Conjugal recombination in *Escherichia coli*: Myths and mechanisms. *Cell* 1991; **64**: 19-27.
- Smith GR, Ponticelli AS. Meiotic recombination in *Schizosaccharomyces pombe*: Genes, enzymes and sites. In: Gottesman ME, Vogel HJ, eds. *Mechanisms of Eukaryotic DNA Recombination*. NY: Columbia University Press; 1992, pp. 155-166.
- DeVeaux LC, Hoagland NA, Smith GR. Seventeen complementation groups of mutations decreasing meiotic recombination in *Schizosaccharomyces pombe*. *Genetics* 1992; **130**: 251-262.
- Ponticelli AS, Smith GR. Chromosomal context dependence of a eukaryotic recombinational hotspot. *Proc Natl Acad Sci USA* 1992; **89**: 227-231.

- Szankasi P, Smith GR. A DNA exonuclease induced during meiosis of *Schizosaccharomyces pombe*. J Biol Chem 1992, **267**: 3014-3023.
- Taylor AF, Smith GR. RecBCD enzyme is altered upon cutting DNA at a Chi recombination hotspot. Proc Natl Acad Sci USA 1992, **89**: 5226-5230.
- Lin Y, Larson KL, Dorer R, Smith GR. Meiotically induced *rec7* and *rec8* genes from *Schizosaccharomyces pombe*. Genetics 1992, **132**: 75-85.
- Szankasi P, Smith GR. A single-stranded DNA exonuclease from *Schizosaccharomyces pombe*. Biochemistry 1992, **31**: 6709-6773.
- Holbeck SL, Smith GR. Chi enhances heteroduplex DNA levels during recombination. Genetics 1992, **132**: 879-891.
- Ganesan S, Smith GR. Strand-specific binding to duplex DNA ends by the subunits of *Escherichia coli* RecBCD enzyme. J Molec Biol 1993, **229**: 67-78.
- Wahls WP, Smith GR. The M26 homologous recombination hotspot: sequences, factors, and chromosomal context. In: Summer AT, Chandley AC, eds. *Chromosomes Today*, vol. 11. London: Chapman and Hall; 1993, 351-363.
- Wahls WP, Song JM, Smith GR. Single-stranded DNA binding activity of C₁-tetrahydrofolate synthase enzymes. J. Biol. Chem. 1993, **268**: 23792-23798.
- DeVeaux LC, Smith GR. Region-specific activators of meiotic recombination in *Schizosaccharomyces pombe*. Genes Dev. 1994, **8**: 203-210.
- Lin Y, Smith GR. Transient, meiosis-induced expression of the *rec6* and *rec12* genes of *Schizosaccharomyces pombe*. Genetics 1994, **136**: 769-779.
- Smith GR. Hotspots of homologous recombination. Experientia 1994, **50**: 234-241.
- Smith GR. Reviews of *The Chromosomes* by J.S. Heslop-Harrison and R.B. Flavell eds., and *Chromosomes: A Synthesis* by R.P. Wagner, M.P. Maguire, and R.L. Stallings, Trends Cell Biol. 1994, **4**: 229-230.
- Wahls WP, Smith GR. A heteromeric protein that binds to a meiotic homologous recombination hot spot: correlation of binding and hot spot activity. Genes Dev. 1994, **8**: 1693-1702.
- Smith GR, Amundsen SK, Dabert P, Taylor AF. The initiation and control of homologous recombination in *Escherichia coli*. Phil. Trans. Royal Soc. (London) Series B, 1995, **347**: 13-20.

- Lin Y, Smith GR. Molecular cloning of the meiosis-induced *rec10* gene of *Schizosaccharomyces pombe*. *Curr. Genet.*, 1995, **27**: 440-446.
- Szankasi P, Smith GR. A role for Exonuclease I from *S. pombe* in mutation avoidance and mismatch correction. *Science* 1995, **267**: 1166-1169.
- Virgin JB, Metzger J, Smith GR. Active and inactive transplacement of the *M26* recombination hotspot in *Schizosaccharomyces pombe*. *Genetics* 1995, **141**: 33-48.
- Lin Y, Smith GR. An intron-containing meiosis-induced recombination gene, *rec15*, of *Schizosaccharomyces pombe*. *Molec. Microbiol.* 1995, **17**: 439-448.
- Taylor AF, Smith GR. Strand specificity of nicking of DNA at Chi sites by RecBCD enzyme: modulation by ATP and magnesium levels. *J. Biol. Chem.* 1995, **270**: 24459-24467.
- Taylor AF, Smith GR. Monomeric RecBCD enzyme binds and unwinds DNA. *J. Biol. Chem.* 1995, **270**: 24451-24458.
- Szankasi P, Smith GR. Requirement of *S. pombe* exonuclease II, a homologue of *S. cerevisiae* Sep1, for normal mitotic growth and viability. *Curr. Genet.* 1996, **30**: 284-293.
- Li YF, Numata M, Wahls WP, Smith GR. Region-specific meiotic recombination in *S. pombe*: the *rec11* gene. *Molec. Microbiol.* 1997, **5**: 869-878.
- Li YF, Smith GR. The *Schizosaccharomyces pombe* *rec16* gene product regulates multiple meiotic events. *Genetics* 1997, **146**: 57-67.
- Dabert P, Smith GR. Gene replacement in wild-type *Escherichia coli*: enhancement by Chi sites. *Genetics* 1997, **145**: 877-889.
- Fox ME, Virgin JB, Metzger J, Smith GR. Position- and orientation-independent activity of the *Schizosaccharomyces pombe* meiotic recombination hotspot *M26*. *Proc. Natl. Acad. Sci. USA* 1997 **94**: 7446-7451.
- Farah JA, Smith GR. The RecBCD enzyme initiation complex for DNA unwinding: enzyme positioning and DNA opening. *J. Mol. Biol.* 1997, **272**: 699-715.
- Evans D, Li YF, Fox ME, Smith GR. A WD repeat protein, Rec14, essential for meiotic recombination in *Schizosaccharomyces pombe*. *Genetics* 1997, **146**: 1253-1264.

- Kon N, Krawchuk MD, Warren BG, Smith GR, Wahls WP. Transcription factor Mts1/Mts2 (Atf1/Pcr1, Gad7/Pcr1) activates the M26 meiotic recombination hotspot in *Schizosaccharomyces pombe*. Proc. Natl. Acad. Sci. USA 1997, **94**: 13756-13770.
- Smith GR. Chi sites and their consequences, In: de Bruijn FJ, Lupski JR, Weinstock G, eds. *Bacterial Genomes: Physical Structure and Analysis*. NY: Chapman and Hall. 1998 pp. 49-66.
- Smith GR. DNA double-strand break repair and recombination in *Escherichia coli*. In: *DNA Damage and Repair -- Biochemistry, Genetics and Cell Biology*. MF Hoekstra and JA Nickoloff, eds. Humana Press, 1998 pp. 135-162.
- Amundsen SK, Taylor AF, Smith GR. A stimulatory RNA associated with RecBCD enzyme. Nucleic Acids Res. 1998 **26**: 2125-2131.
- Jessen JR, Meng A, McFarlane RJ, Paw BH, Zon LI, Smith GR, Lin S. Modification of bacterial artificial chromosomes through Chi-stimulated homologous recombination and its application in zebrafish transgenesis. Proc. Natl. Acad. Sci., USA 1998 **95**: 5121-5126.
- Fox ME, Smith GR. Control of meiotic recombination in *Schizosaccharomyces pombe*. In: *Progress in Nucleic Acid Research and Molecular Biology*. K. Moldave, ed. Academic Press, New York, 1998, **61**: 345-378.
- Ding R, Smith GR. Global control of meiotic recombination genes by *S. pombe rec16* (*rep1*). Mol. Gen. Genet. 1998, **258**: 663-670.
- Colbert T, Taylor AF, Smith GR. Genomics, Chi sites and codons: "Islands of preferred DNA pairing" are oceans of ORFs. Trends Genet. 1998, **14**: 485-488.
- Taylor AF, Smith GR. Regulation of homologous recombination: Chi inactivates RecBCD enzyme by disassembly of the three subunits. Genes Dev. 1999, **13**: 890-900.
- Smith GR. Recombination, homologous recombination, illegitimate recombination. In: *Encyclopedia of Molecular Biology*. Ed. TE Creighton. John Wiley & Sons, New York, NY. 1999. pp. 1211-2, 1164-1165, 2109.