

6 Literaturverzeichnis

1. Mueser KT, McGurk SR et al.: Schizophrenia, Lancet 2004: 363: 2063-72.
2. Maurice G , Barnes TRE et al.: Assessment of drug-related movement disorders in schizophrenia, The Royal College of Psychiatrist 2000: 6: 332-41.
3. Malhotra AK, Murphy GM et al.: Pharmacogenetics of psychotropic drug response. Am J Psychiatry 2004: 161(5): 780-96.
4. Dilling H, Reimer C: Psychiatrie und Psychotherapie, 2. Auflage, Springer-Verlag Berlin Heidelberg New York (1995), ISBN 3-540-57940-0.
5. Schizophrenia: Manifestations, Incidence and Course in Different Cultures; A World Health Organization Ten-Country-Study, Psychol Med Monograph Suppl 1992: 20: 1-97.
6. Lenzenweger MF: Schizophrenia: Refining the Phenotype, Resolving Endophenotypes, Behav Res Ther 1999: 37: 281-95.
7. Hsiung R, DSM IV-Library: DSM IV-Diagnosis and Codes, Numerical Listing, 2004: <http://www.dr-bob.org/tips/dsm4n.html>.
8. Maier W et al.: Genetik schizophrener Störungen, Nervenarzt 1999: 70: 955-69.
9. Marshall WJ, Bangert SK: Dopaminergic Systems and Schizophrenia, Clinical Biochemistry, Churchill Livingstone-Verlag 1995, 574-80 ISBN: 0443043418.
10. Gottesmann B: Confirming unexpressed Genotypes for Schizophrenia: Risk in the Offspring of Fischer's Danish Identical and Fraternal discordant twins, Archives of General Psychiatry 1989: 46: 862-872.
11. Bromet EJ, Fennig S et al.: Epidemiology and Natural History of Schizophrenia, Biol Psychiatry 1999: 46: 871-1.
12. Jones C: The New Epidemiology of Schizophrenia, Clin North Am 1998: 21: 1-25.
13. Jaber M et al.: Dopamine Receptors and Brain Function, Neuropharmacology 1996: 35(11): 1503-19.

14. Scarr E, Copolov DL et al.: A Proposed Pathological Model in the Hippocampus of Subjects with Schizophrenia, *Clin Exp Pharmacol Physiol* 2001; 28(1-2): 70-3.
15. Seeman P et al.: Dopamine Receptors and Transporters in Parkinson's Disease and Schizophrenia, *FASEB* 1990; 4(10): 2737-44.
16. Civelli O et al.: Molecular biology of the dopamine receptors. *Eur J Pharmacol* 1991; 207(4): 277-86.
17. Gingrich JA et al.: Recent advantages in the molecular biology of dopamine receptors, *Annu Rev Neurosci* 1993; 16: 299-321.
18. Sokoloff P et al.: Novel dopamine receptors half a decade later. *Trends Pharmacol Sci* 1995 ;16(8): 270-5.
19. Jackson DM et al. : Dopamine Receptors: molecular biology, biochemistry and behavioural. *Pharmacol Ther* 1994; 64(2): 291-370.
20. Ohara K, Nakamura Y et al.: Polymorphisms of dopamine D2-like (D2, D3, and D4) receptors in schizophrenia, *Biol Psychiatry* 1996; 40: 1209-17.
21. Keabian C: Multiple Receptors for Dopamine, *Nature* 1979; 277: 93-6.
22. Cravchik A, Sibley DR et al.: Analysis of neuroleptic binding affinities and potencies for the different human D2 dopamine receptor missense variants, *Pharmacogenetics* 1999; 9: 17-23.
23. Sibley M: *Trends Pharmacol Sci* 1992; 13: 61-9.
24. Seeman CW: *Proc natn Acad Sci USA* 1975; 72: 4376-80.
25. Seeman P: Dopamine D4 receptors elevated in schizophrenia, *Nature* 1993; 365: 441-5.
26. Horowski R: *Neuroleptika*: IN: Hackenthal E, Kuschinsky K: *Pharmakologie und Toxikologie*, Springer-Verlag Berlin Heidelberg New York 1999: 133-42.
27. Kapur S, Remington G: Serotonin-dopamine interaction and its relevance to schizophrenia, *Am J Psychiatry* 1996; 153: 466-76.
28. Kaiser R, Konneker M et al.: Dopamine D4 receptor 48-bp repeat polymorphism: no association with response to antipsychotic treatment, but association with catatonic schizophrenia, *Mol Psychiatry* 2000; 5(4): 418-24.
29. Goff DC, Coyle JT: The emerging role of glutamate in the pathophysiology and treatment of schizophrenia, *Am J Psychiatry* 2001; 158(9): 1367-77.

30. Tamminga CA, Frost DO: Changing concepts in the neurochemistry of schizophrenia, *Am J Psychiatry* 2001; 158(9): 1365-6.
31. Verga M, Macciardi F et al.: No association between schizophrenia and the serotonin receptor 5HTR2a in an Italian population, *Am J Med Genet* 1997; 74: 21-5.
32. Kapur S, Seeman P: Does fast dissociation from the dopamine d(2) receptor explain the action of atypical antipsychotics?: A new hypothesis, *Am J Psychiatry* 2001; 158(3): 360-9.
33. Csernansky JG, Schuchart EK: Relapse and rehospitalisation rates in patients with schizophrenia: effects of second generation antipsychotics, *CNS Drugs* 2002; 16(7): 473-84.
34. Azorin JM, Spiegel R et al.: A double-blind comparative study of clozapine and risperidone in the management of severe chronic schizophrenia, *Am J Psychiatry* 2001; 158(8): 1305-13.
35. Kapur S, Remington G et al.: Atypical antipsychotics: new directions and new challenges in the treatment of schizophrenia, *Annu Rev Med* 2001; 52: 503-17.
36. Murken J, Cleve H: *Humangenetik*. Ferdinand Enke Verlag Stuttgart, 5. Auflage 1994, ISBN 3-432-88175-4.
37. Pedersen-Bjergaard J: The human genome, in proportion, *Lancet* 2001; 357: 489-91.
38. Jovanovic V et al.: Comparative pharmacological and functional analysis of the human dopamine D4.2 and D4.10 receptor variants, *Pharmacogenetics* 1999; 9: 561-8.
39. Asghari V, Sanyal S et al.: Modulation of intracellular cyclic AMP levels by different human dopamine D4 receptor variants, *J Neurochem* 1995; 65: 1157-65.
40. Gelernter J, Kennedy JL et al.: The D4 dopamine receptor (DRD4) maps to distal 11p close to HRAS, *Genomics* 1992; 13: 208-10.
41. Wong AH, Buckle CE et al.: Polymorphisms in dopamine receptors: what do they tell us? *Eur J Pharmacol* 2000 ; 27 :410(2-3):183-203.

42. Okuyama Y, Ishiguro H et al.: A genetic polymorphism in the promoter region of DRD4 associated with expression and schizophrenia, *Biochem Biophys Res Commun* 1999; 258: 292-5.
43. Kamakura S, Iwaki A et al.: Cloning and characterization of the 5'-flanking region of the human dopamine D4 receptor gene, *Biochem Biophys Res Commun* 1997; 235: 321-6.
44. Jonsson EG, Ivo R et al.: No association between a promoter dopamine D(4) receptor gene variant and schizophrenia, *Am J Med Genet* 2001; 105(6):525-8.
45. Ronai Z, Barta C et al.: Genotyping the -521C/T functional polymorphism in the promoter region of dopamine D4 receptor (DRD4) gene, *Electrophoresis* 2001; 22(6): 1102-5.
46. Catalano M, Nobile M et al.: Distribution of a novel mutation in the first exon of the human dopamine D4 receptor gene in psychotic patients, *Biol Psychiatry* 1993; 34: 459-64.
47. Zenner MT, Nobile M et al.: Expression and characterization of a dopamine D4R variant associated with delusional disorder, *FEBS Lett* 1998; 422: 146-50.
48. Nothen MM, Cichon S et al.: Human dopamine D4 receptor gene: frequent occurrence of a null allele and observation of homozygosity, *Hum Mol Genet* 1994; 3: 2207-12.
49. Jonsson EG, Nothen MM et al.: Lack of association between dopamine D4 receptor gene and personality traits, *Psychol Med* 1998; 28: 985-9.
50. Cichon S, Nothen MM et al.: Pharmacogenetics of schizophrenia, *Am J Med Genet* 2000; 97(1): 98-106.
51. Van Tol HH. Multiple dopamine D4 receptor variants in the human population, *Nature* 1992; 358: 149.
52. Lichter JB, Barr CL et al.: A hypervariable segment in the human dopamine receptor D4 (DRD4) gene, *Hum Mol Genet* 1993; 2: 767-3.
53. Watts VJ, Vu MN et al. : Short- and long-term heterologous sensitization of adenylate cyclase by D4 dopamine receptors, *Psychopharmacology* 1999; 141: 83-92.

54. Asghari V, Schoots O et al.: Dopamine D4 receptor repeat: analysis of different native and mutant forms of the human and rat genes, *Mol Pharmacol* 1994; 46: 364-73.
55. Oak JN, Oldenhof J et al.: The dopamine D(4) receptor: one decade of research, *Eur J Pharmacol* 2000; 405(1-3): 303-27.
56. Seeman P, Ulpian C et al.: Dopamine D4 receptor variant, D4GLYCINE194, in Africans, but not in Caucasians: no association with schizophrenia, *Am J Med Genet* 1994; 54: 384-90.
57. Cox BA, Henningsen RA et al.: Contributions of conserved serine residues to the interactions of ligands with dopamine D2 receptors, *J Neurochem* 1992; 59: 627-35.
58. Liu ISC, Seeman P et al.: Dopamine D4 Receptor Variant in Africans, D4Valine194Glycine, Is Insensitive to Dopamine and Clozapine, *Am J of Med Gen* 1996; 61: 277-82.
59. Kaiser R, Tremblay PB et al.: Relationship between adverse effects of antipsychotic treatment and dopamine D(2) receptor polymorphisms in patients with schizophrenia, *Mol Psychiatry* 2002; 7(7): 695-705.
60. Boose JA, Sambrook J et al.: The single-chain form of tissue-type plasminogen activator has catalytic activity: studies with a mutant enzyme that lacks the cleavage site, *Biochemistry* 1989; 28(2): 635-43.
61. Serretti A, Lilli R et al.: Dopamine receptor D4 gene is not associated with major psychoses, *Am J Med Genet* 1999; 88: 486-91.
62. Kaiser R, Brockmüller J et al.: Heritable Polymorphisms in the Dopamin and Serotonin Receptors in Schizophrenic Patients and Healthy Controls. Poster, Berlin 1999.
63. Hong CJ, Chiu HJ et al.: Twelve-nucleotide repeat polymorphism of D4 dopamine receptor gene in Chinese familial schizophrenic patients, *Biol Psychiatry* 1998; 43: 432-5.
64. Kohn Y, Ebstein RP et al.: Dopamine D4 receptor gene polymorphisms: relation to ethnicity, no association with schizophrenia and response to clozapine in Israeli subjects, *Eur Neuropsychopharmacol* 1997; 7: 39-43.

65. Gelernter J, Kranzler H et al.: D4 dopamine-receptor (DRD4) alleles and novelty seeking in substance-dependent, personality-disorder, and control subjects, *Am J Hum Genet* 1997: 61: 1144-52.
66. Mitsuyasu H, Hirata N et al.: Association analysis of polymorphisms in the upstream region of the human dopamine D4 receptor gene (DRD4) with schizophrenia and personality traits, *J Hum Genet* 2001: 46(1): 26-31.
67. Xing QH, Wu SN et al.: Association analysis of polymorphisms in the upstream region of the human dopamine D4 receptor gene in schizophrenia, *Schizophr Res* 2003: 65(1): 9-14.
68. Okuyama Y, Ishiguro H et al.: Identification of a polymorphism in the promoter region of DRD4 associated with the human novelty seeking personality trait, *Mol Psychiatry* 2000: 5(1): 64-9.
69. Ambrosio AM, Kennedy JL et al.: No evidence of association or linkage disequilibrium between polymorphisms in the 5' upstream and coding regions of the dopamine D4 receptor gene and schizophrenia in a Portuguese population, *Am J Med Genet B Neuropsychiatr Genet* 2004 : 125B(1): 20-4.
70. Kerwin R: The dopamine D4 receptor in schizophrenia: an update, *Psychological Medicine* 1996: 26: 221-7.
71. Fong-Ming C et al.: The world-wide distribution of allele frequencies at the human dopamine D4 receptor locus, *Hum Gen* 1996: 98: 91-101.
72. Benjamin J, Li L et al.: Population and familial association between the D4 dopamine receptor gene and measures of Novelty Seeking, *Nat Genet* 1996: 12: 81-4.
73. Ebstein RP, Novick O et al.: Dopamine D4 receptor (D4DR) exon III polymorphism associated with the human personality trait of Novelty Seeking, *Nat Genet* 1996: 12: 78-80.
74. Benjamin J, Osher Y et al.: Association between tridimensional personality questionnaire (TPQ) traits and three functional polymorphisms: dopamine receptor D4 (DRD4), serotonin transporter promoter region (5-HTTLPR) and catechol O-methyltransferase (COMT), *Mol Psychiatry* 2000: 5(1): 96-100.

75. Strobel A, Wehr A et al.: Association between the dopamine D4 receptor (DRD4) exon III polymorphism and measures of Novelty Seeking in a German population, *Mol Psychiatry* 1999; 4: 378-84.
76. Tomitaka M, Tomitaka S et al.: Association between novelty seeking and dopamine receptor D4 (DRD4) exon III polymorphism in Japanese subjects, *Am J Med Genet* 1999; 88: 469-71.
77. Malhotra AK, Virkkunen M et al.: The association between the dopamine D4 receptor (D4DR) 16 amino acid repeat polymorphism and novelty seeking, *Mol Psychiatry* 1996; 1: 388-91.
78. Tsai SJ, Hong CJ et al.: Association study of catechol-O-methyltransferase gene and dopamine D4 receptor gene polymorphisms and personality traits in healthy young chinese females, *Neuropsychobiology* 2004; 50(2): 153-6.
79. Petronis A, Macciardi F et al.: Association study between the dopamine D4 receptor gene and schizophrenia, *Am J Med Genet* 1995; 60: 452-5.
80. Millet B, Chabane N et al. : Association between the dopamine receptor D4 (DRD4) gene and obsessive-compulsive disorder, *Am J Med Genet B Neuropsychiatr Genet* 2003; 116(1): 55-9.
81. Barr CL, Wigg KG et al.: No evidence for a major gene effect of the dopamine D4 receptor gene in the susceptibility to Gilles de la Tourette syndrome in five Canadian families, *Am J Med Genet* 1996; 67: 301-5.
82. Cruz C, Camarena B et al.: Increased prevalence of the seven-repeat variant of the dopamine D4 receptor gene in patients with obsessive-compulsive disorder with tics, *Neurosci Lett* 1997; 231: 1-4.
83. Leung PW, Lee CC et al.: Dopamine receptor D4 (DRD4) gene in Han Chinese children with attention-deficit/hyperactivity disorder (ADHD): Increased prevalence of the 2-repeat allele, *Am J Med Genet B Neuropsychiatr Genet* 2004; 133B(1): 54-56.
84. Barr CL, Wigg KG et al.: Further evidence from haplotype analysis for linkage of the dopamine D4 receptor gene and attention-deficit hyperactivity disorder, *Am J Med Genet* 2000; 96(3): 262-7.
85. Sommer SS, Lind TJ et al.: Dopamine D4 receptor variants in unrelated schizophrenic cases and controls, *Am J Med Genet* 1993; 48: 90-3.

86. Daniels J, Williams J et al.: Repeat length variation in the dopamine D4 receptor gene shows no evidence of association with schizophrenia, *Am J Med Genet* 1994; 54: 256-8.
87. Weiss J, Magert HJ et al.: Association between different psychotic disorders and the DRD4 polymorphism, but no differences in the main ligand binding region of the DRD4 receptor protein compared to controls, *Eur J Med Res* 1996; 1: 439-5.
88. Hong CJ, Lee YL et al.: Dopamine D4 receptor variants in Chinese sporadic and familial schizophrenics, *Am J Med Genet* 1997; 74: 412-5.
89. Tanaka T, Igarashi S et al.: Lack of association between dopamine D4 receptor gene and schizophrenia, *Am J Med Genet* 1995; 60: 580-2.
90. Angermeyer MC, Kuhn L et al.: Gender and the course of schizophrenia: differences in treated outcomes, *Schizophr Bull* 1990; 16: 293-307.
91. Iwata Y, Matsumoto H et al.: Early-onset schizophrenia and dopamine-related gene polymorphism, *Am J Med Genet* 2003; 116B(1): 23-6.
92. Kenneth KK: Can We Find Genes For Schizophrenia, *Am J of Med Gen* 1997; 74: 104-11.
93. Burnet PW, Harrison PJ: Genetic variation of the 5-HT_{2A} receptor and response to clozapine, *Lancet* 1995; 346: 909.
94. Gerlach J, Lublin H et al.: Extrapyramidal symptoms during long-term treatment with antipsychotics: special focus on clozapine and D1 and D2 dopamine antagonists, *Neuropsychopharmacology* 1996; 14: 35S-39S.
95. Scharfetter J: Pharmacogenetics of dopamine receptors and response to antipsychotic drugs in schizophrenia--an update, *Pharmacogenomics* 2004; 5(6): 691-8.
96. Hwu HG, Hong CJ et al.: Dopamine D4 receptor gene polymorphisms and neuroleptic response in schizophrenia, *Biol Psychiatry* 1998; 44: 483-7.
97. Cohen BM, Ennulat DJ et al.: Polymorphisms of the dopamine D4 receptor and response to antipsychotic drugs, *Psychopharmacology* 1999; 141: 6-10.
98. Casey DE: Tardive Dyskinesia: Pathophysiology and animal models, *J Clin Psychiatry* 2000; 61(4): 5-9.

99. Eichhammer P, Albus M et al.: Association of dopamine D3-receptor gene variants with neuroleptic induced akathisia in schizophrenic patients: a generalization of Steen's study on DRD3 and tardive dyskinesia, *Am J Med Genet* 2000; 96(2): 187-91.
100. Dahmen N, Muller MJ et al.: Genetic polymorphisms of the dopamine D2 and D3 receptor and neuroleptic drug effects in schizophrenic patients, *Schizophr Res* 2001; 49(1-2): 223-5.
101. Chong SA, Tan EC et al.: Polymorphisms of dopamine receptors and tardive dyskinesia among Chinese patients with schizophrenia, *Am J Med Genet B Neuropsychiatr Genet* 2003; 116(1): 51-4.
102. Basile VS, Masellis M, et al.: Pharmacogenomics in schizophrenia: the quest for individualized therapy, *Hum Mol Genet* 2002; 11(20): 2517-30.
103. Segman RH, Heresco-Levy U et al.: Association between the serotonin 2C receptor gene and tardive dyskinesia in chronic schizophrenia: additive contribution of 5-HT_{2C}ser and DRD3gly alleles to susceptibility, *Psychopharmacology* 2000; 152(4): 408-13.
104. Segman RH, Heresco-Levy U et al.: Interactive effect of cytochrome P450 17alpha-hydroxylase and dopamine D3 receptor gene polymorphisms on abnormal involuntary movements in chronic schizophrenia, *Biol Psychiatry* 2002; 51(3): 261-3.
105. Garcia-Barceló MM, Lam LC et al.: Dopamine D3 receptor gene and tardive dyskinesia in Chinese schizophrenic patients, *J Neural Transm* 2001; 108(6): 671-7.
106. Dahl ML: Cytochrome p450 phenotyping/genotyping in patients receiving antipsychotics: useful aid to prescribing? *Clin Pharmacokinet* 2002; 41(7): 453-70.
107. Scordo MG, Spina E: Cytochrome P450 polymorphisms and response to antipsychotic therapy, *Pharmacogenomics* 2002; 3(2): 201-18.
108. Brockmoller J, Kirchheiner J et al.: The impact of the CYP2D6 polymorphism on haloperidol pharmacokinetics and on the outcome of haloperidol treatment., *Clin Pharmacol Ther* 2002; 72(4): 438-52.

109. Andreassen OA, MacEwan T et al.: Non-functional CYP2D6 alleles and risk for neuroleptic-induced movement disorders in schizophrenic patients, *Psychopharmacology* 1997; 131: 174-9.
110. Lohmann PL, Bagli M et al.: CYP2D6 polymorphism and tardive dyskinesia in schizophrenic patients, *Pharmacopsychiatry* 2003; 36(2): 73-8.
111. Liou YJ, Wang YC et al.: Cytochrome P-450 2D6*10 C188T polymorphism is associated with antipsychotic-induced persistent tardive dyskinesia in Chinese schizophrenic patients, *Neuropsychobiology* 2004; 49(4): 167-73.
112. Peacock L, Solgaard T et al.: Clozapine versus typical antipsychotics. A retro- and prospective study of extrapyramidal side effects, *Psychopharmacology* 1996; 124: 188-96.
113. Maidment I: Use of serotonin antagonists in the treatment of neuroleptic-induced akathisia, *Psychiatric Bulletin* 2000; 24: 348-51.
114. Gaebel W, Falkai P: *Behandlungsleitlinie Schizophrenie*, Praxisleitlinien in Psychiatrie und Psychotherapie, Band 1, Deutsche Gesellschaft für Psychiatrie, Psychotherapie und Nervenheilkunde, Steinkopff Verlag Darmstadt (2006), ISBN 3-7985-1493-3.
115. Bertelsen A: Schizophrenia and related disorders: Experience with current diagnostic systems, *Psychopathology* 2002;35:89-93.