

## REFERENCES

- Agrawal, K. V., Na Gillespie, Ac Heath, Cn Lessov-Schlaggar, Ng Martin, Ec Nelson, Ws Slutske, Jb Whitfield & Lynske, A. M. 2012. The genetics of addiction—a translational perspective. *Translational Psychiatry*, 2.
- Alblooshi, H., Hulse, G., Osman, W., Kashef, A. E., Shawky, M., Ghaferi, H. A., Safar, H. A. & Tay, G. K. 2018. The frequency of DRD2 rs1076560 and OPRM1 rs1799971 in substance use disorder patients from the United Arab Emirates. *Annals of General Psychiatry*, 17.
- Arias-Carrion, O., Stamelou, M., Murillo-Rodriguez, E., Menendez-Gonzalez, M. & Poppel, E. 2010. Dopaminergic reward system: a short integrative review. *Int Arch Med*, 3, 24.
- Bergren, F., Arronson, Karanti, Errikson, Blennow, Thelle, Henrik, Balldin 2006. The Taq1A DRD2 A1 Allele is Association with Alcohol dependence although its Effect Size is Small. *Alcohol & Alcoholism*, 41.
- Bevilacqua, L. & Goldman, D. 2009. Genes and Addictions. *Clin Pharmacol Ther*, 85, 359–361.
- Bnn 2018. *Executive Summary Survei Penyalahgunaan dan Peredaran Gelap Narkoba Tahun 2018*.
- Chen, A. L., Blum, K., Chen, T. J., Giordano, J., Downs, B. W., Han, D., Barh, D. & Braverman, E. R. 2012. Correlation of the Taq1 dopamine D2 receptor gene and percent body fat in obese and screened control subjects: a preliminary report. *Food Funct*, 3, 40-8.
- Chia-Hsiang Chen, S.-H. C., And Hai-Gwo Hwu 1996. Lack of Association Between TaqI A1 Allele of Dopamine D2 Receptor Gene and Alcohol-Use Disorders in Atayal Natives of Taiwan. *American Journal of Medical Genetics*, 67.
- Chih-Ken Chena, B., Xun Hua, Shih-Ku Linc, Pak C. Shama, El-Wui Loha, Tao Lia, Robin M. Murraya and David M. Balla 2004. Association analysis of dopamine D2-like receptor genes and methamphetamine abuse. *Psychiatric Genetics*, 14.
- Chiu, S. 2012. Mechanism of action of methamphetamine within the catecholamine and serotonin areas of the central nervous system. *Curr Drug Abuse*, 5, 42.
- Clarke, T.-K., Weiss, A. R. D., Ferarro, T. N., Kampman, K. M., Dackis, C. A., Pettinati, H. M., O'brien, C. P., W., D., Oslin, Lohoff, F. W. & Berrettini, W. H. 2014. The dopamine receptor D2 (DRD2) SNP rs1076560 is associated with opioid addiction. *Ann Hum Genet*, 78, 33-39.
- Fraeyman, N. 2003. Cellular activity of dopamine DA2 receptor splice variants and mutants. *Pharmacological Research*, 48, 535-540.
- Gluskin, B. S. & Mickey, B. J. 2016. Genetic variation and dopamine D2 receptor availability: a systematic review and meta-analysis of human in vivo molecular imaging studies. *Transl Psychiatry*, 6, e747.
- Grzywacz, A., Chmielowiec, J., Chmielowiec, K., Mroczek, B., Masiak, J., Suchanecka, A., Sipak-Szmigiel, O., Szumilas, K. & Trybek, G. 2019. The Ankyrin Repeat and Kinase Domain Containing 1 Gene Polymorphism (ANKK1 Taq1A) and Personality Traits in Addicted Subjects. *Int J Environ Res Public Health*, 16.
- Hart, A. B., De Wit, H. & Palmer, A. A. 2012. Genetic factors modulating the response to stimulant drugs in humans. *Curr Top Behav Neurosci*, 12, 537-77.
- Ho, M. K., Goldman, D., Heinz, A., Kaprio, J., Kreek, M. J., Li, M. D., Munafo, M. R. & Tyndale, R. F. 2010. Breaking barriers in the genomics and pharmacogenetics of drug addiction. *Clin Pharmacol Ther*, 88, 779-91.

- Hofer, T., Ray, N., Wegmann, D. & Excoffier, L. 2009. Large allele frequency differences between human continental groups are more likely to have occurred by drift during range expansions than by selection. *Ann Hum Genet*, 73, 95-108.
- Janis E, D. J. C., And Gonc, R. Abecasis 2005. A Note on Exact Tests of Hardy-Weinberg Equilibrium. *Genet*, 76, 883-887.
- Kalant, H. 2001. The Pharmacology and Toxicology of Ecstasy (MDMA) and related drugs. *CMAJ*, 2, 7.
- Ke Xu, D. L., Robert, Petra Franke 2004. Association of Specific Haplotypes of D2 Dopamine Receptor Gene With Vulnerability to Heroin Dependence in 2 Distinct Populations. *Arch Gen Psychiatry*, 61.
- Khan, Z., Antonia, Rosa, Antonio, Alicia & Adelaida 1998. Differential regional and Cellular Distribution of Dopamine D2-Like Receptors: An Immunocytochemical Study of Subtype-Spesific Antibodies in Rat and Human Brain. *THE JOURNAL OF COMPARATIVE NEUROLOG*, 402.
- Kish, S. J. 2008. Pharmacologic mechanisms of crystal meth. *CMAJ*, 178, 1679-82.
- Koob, G. F., Arends, M. A. & Moal, M. L. 2014. *Drugs, Addiction, and The Brain*.
- Lawford, B. R., Mcd. Young, R., Noble, E. P., Kann, B., Arnold, L., Rowell, J. & Ritchie, T. L. 2003. D2 dopamine receptor gene polymorphism: paroxetine and social functioning in posttraumatic stress disorder. *European Neuropsychopharmacology*, 13, 313-320.
- Ledonne, A. & Mercuri, N. B. 2017. Current Concepts on the Physiopathological Relevance of Dopaminergic Receptors. *Front Cell Neurosci*, 11, 27.
- Lee, J.-Y., Cho, J., Lee, E.-K., Park, S.-S. & Jeon, B. S. 2011. Differential genetic susceptibility in diphasic and peak-dose dyskinesias in Parkinson's disease. *Movement Disorders*, 26, 73-79.
- Lejeune, M. A. 2009. Essentials of Genetics. *Essentials of Genetics*, 1.
- Lopez-Castroman, J., Vaquero-Lorenzo, C., Perez-Rodriguez, M. M., Diaz-Hernandez, M., Fernandez-Piqueras, J., Saiz-Ruiz, J. & Baca-Garcia, E. 2009. Gender effect on association between DRD2 polymorphism and substance dependence in a Spanish sample. *Drug Alcohol Depend*, 101, 210-2.
- Lucena-Aguilar, G., Sanchez-Lopez, A. M., Barberan-Aceituno, C., Carrillo-Avila, J. A., Lopez-Guerrero, J. A. & Aguilar-Quesada, R. 2016. DNA Source Selection for Downstream Applications Based on DNA Quality Indicators Analysis. *Biopreserv Biobank*, 14, 264-70.
- Mehmedic, Z., Chandra, S., Slade, D., Denham, H., Foster, S., Patel, A. S., Ross, S. A., Khan, I. A. & Elsohly, M. A. 2010. Potency trends of Delta9-THC and other cannabinoids in confiscated cannabis preparations from 1993 to 2008. *J Forensic Sci*, 55, 1209-17.
- Mignini, F., Napolioni, V., Codazzo, C., Carpi, F. M., Vitali, M., Romeo, M. & Ceccanti, M. 2012. DRD2/ANKK1 TaqIA and SLC6A3 VNTR polymorphisms in alcohol dependence: association and gene-gene interaction study in a population of Central Italy. *Neurosci Lett*, 522, 103-7.
- Najafabadi, M. S., Ohadi, M., Joghataie, M. T., Valaie, F., Riazalhosseini, Y., Mostafavi, H., Mohammadbeigi, F. & Najmabadi, H. 2005. Association Between the DRD2 A1 Allele and Opium Addiction in the Iranian Population. *American Journal of Medical Genetics Part B (Neuropsychiatric Genetics)*, 134B, 39-41.
- Nestler, D. L. 2001. Learning about addiction from the genome. *Nature* 409.
- Noble, E. 1998. The D2 Dopamine Receptor Gene: A Review of Association Studies in Alcoholism and Phenotypes. *Alcohol*, 16, 33-45.

- Nussbaum, R. L., Mcinnes, R. R. & Willard, H. F. 2007. *Thompson & Thompson Genetics in Medicine 7th Edition*, Canada.
- Nussbaum, R. L., Roderick R. Mcinnes & Willard, H. F. 2015. *Genetics in Medicine*, Canada.
- Obembe, S. B. 2012. *Practical Skills and Clinical Management of Alcoholism and Drug Addiction*, USA.
- P. Gorwood<sup>1</sup>, P. Batel<sup>4</sup>, L. Gouya<sup>3</sup>, F. Courtois<sup>5</sup>, J. Feingold<sup>1</sup>, J. Adès<sup>2</sup> 2000. Reappraisal of the association between the DRD2 gene, alcoholism and addiction. *Eur Psychiatry*, 15, 90-6.
- Pelt-Verkuil, E. V., Belkum, A. V. & Hays, J. P. 2008. *Principles and Technical Aspects of PCR Amplification*, Business Media B.V.
- Perez-Mana, C., Castells, X., Torrens, M., Capella, D. & Farre, M. 2013. Efficacy of psychostimulant drugs for amphetamine abuse or dependence. *Cochrane Database Syst Rev*, CD009695.
- Pincus, Liftshitz & Bock 2017. *Analysis: Principles of Instrumentation*, In: Mcpherson R. A. & Pincus, M. R. (eds.), Elsevier.
- Pinto, E., Reggers, J., Gorwood, P., Boni, C., Scantamburlo, G., Pitchot, W. & Ansseau, M. 2009. The TaqI A DRD2 polymorphism in type II alcohol dependence: a marker of age at onset or of a familial disease? *Alcohol*, 43, 271-5.
- Pohjalainen, T., Rinne, J., Någren, K., Lehtikainen, P., Anttila, K., Syvälahti, E. & Hietala, J. 1998. The A1 allele of the human D 2 dopamine receptor gene predicts low D 2 receptor availability in healthy volunteers. *Molecular psychiatry*, 3, 256.
- Preuss, U. W., Zill, P., Koller, G., Bondy, B. & Socky, M. 2007. D2 dopamine receptor gene haplotypes and their influence on alcohol and tobacco consumption magnitude in alcohol-dependent individuals. *Alcohol Alcohol*, 42, 258-66.
- Schultz, W. 2002. Getting Formal with Dopamine and Reward. *Neuron*, 36.
- Sery, V., Zvolisky 2001. The Association Study of DRD2, ACE and AGT Gene Polymorphisms and Metamphetamine Dependence. *Physiol. Res.*, 50.
- Shahmoradgoli Najafabadi, M., Ohadi, M., Joghataie, M. T., Valaie, F., Riazalhosseini, Y., Mostafavi, H., Mohammadbeigi, F. & Najmabadi, H. 2005. Association between the DRD2 A1 allele and opium addiction in the Iranian population. *Am J Med Genet B Neuropsychiatr Genet*, 134B, 39-41.
- Singh, G., Talwar, I., Sharma, R., Sandhu, H. S., Matharoo, K. & Bhanwer, A. J. S. 2016. Analysis of ANKK1 (rs1800497) and DRD2 (rs1079597, rs1800498) variants in five ethnic groups from Punjab, North-West India. *Gene*, 584, 69-74.
- Steiger, H., Thaler, L., Gauvin, L., Joobar, R., Labbe, A., Israel, M. & Kucer, A. 2016. Epistatic interactions involving DRD2, DRD4, and COMT polymorphisms and risk of substance abuse in women with binge-purge eating disturbances. *Journal of Psychiatric Research*, 77, 8-14.
- Steiger, H. T., L. Gauvin, L. Joobar, R. Labbe, A. Israel, M. Kucer, A. 2016. Epistatic interactions involving DRD2, DRD4, and COMT polymorphisms and risk of substance abuse in women with binge-purge eating disturbances. *J Psychiatr Res*, 77, 8-14.
- Suzuki, K., Mihara, Furokori, Udai, Shingo, Otani, and Sunao 2000. Association between Taq1A Dopamine Receptor Polymorphism and Psychopathology of Schizophrenia in Japanese Patients. *Neuropsychopharmacol. & Biol. Psychiatry*, 24.
- Syahputra, Y. S., Mutiara Indah Sari, Maya Savira, Dina Aprilliah Ariastin, Donny Nauphar, Ramadhan Bestari 2019. Polimorfisme Gen Taq1A Reseptor Dopamin

- D2 (DRD2) pada Pria Usia  $\geq 40$  Tahun dengan Sindrom Metabolik dan Non Sindrom Metabolik. *Buletin Farmatera*, 4.
- Sznabowicz, M., Jasiewicz, A., Iskra-Trifunović, J., Małicka, I., Karakiewicz, B., Kotwas, A., Samochowiec, J. & Grzywacz, A. 2018. Case-control analysis of DRD2 gene polymorphisms in drug addicted patients. *Psychiatr*, 52, 1013-1022.
- Thompson, T., Singleton, Piggott, Lioyd, Perry, Morris 1997. D2 dopamine receptor gene (DRD2) Taq1A polymorphism: reduced DRD2 binding in the human striatum associated with A1 Allele. *Pharmacogenetics*, 7.
- Van Den Oever, S. S., Smit A.B 2012. *Synapting Plasticity*, Vienna, Springer.
- Vereczkei, A., Demetrovics, Z., Szekely, A., Sarkozy, P., Antal, P., Szilagyi, A., Sasvari-Szekely, M. & Barta, C. 2013. Multivariate analysis of dopaminergic gene variants as risk factors of heroin dependence. *PLoS One*, 8, e66592.
- Wise 1998. Drug-activation of brain reward pathways. *Drug and Alcohol Dependence*, 51.
- Young, R. M., Lawford, B. R., Nutting, A. & Noble, E. P. 2004. Advances in molecular genetics and the prevention and treatment of substance misuse: Implications of association studies of the A1 allele of the D2 dopamine receptor gene. *Addict Behav*, 29, 1275-94.
- Zahari, Z., Teh, L. K., Ismail, R. & Razali, S. M. 2011. Influence of DRD2 polymorphisms on the clinical outcomes of patients with schizophrenia. *Psychiatr Genet*, 21, 183-9.
- Zalina Zahari, M. R. S., Mohd Khairi Zahri, Johari, Nurfadhlin Musa, Rusli Ismail 2011. A Nested Allele-Specific Multiplex Polymerase Chain Reaction Method for the Detection of DRD2 Polymorphisms. *Malaysian J Med Sci*, 18.