

Psychiatry

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We have several research groups such as the Developmental Neuropsychiatry group, the Molecular Genetics group, the Clinical Psychopharmacology group and the Perinatal Mental Health group. Using refined clinical data and basic research methods, we are promoting research projects to elucidate the pathogenesis of psychiatric disorders and to develop safe and effective treatments for individual patient.



Research and Clinical interests

1. Discovery of rare risk genetic variants for schizophrenia or autism spectrum disorder
2. Comprehensive analysis of gene mutations and compounds affecting synapse formation
3. Elucidating the brain basis of Theory of Mind
4. Investigation of factors related to treatment resistance in schizophrenia and/or depression
5. Investigation of factors related to maternal-infant bonding

Materials and methods for collaborations

1. Sanger sequencing and the TaqMan genotyping assays.
2. High content screening in primary neurons
3. Manipulating monkeys brain circuits by designer receptor exclusively activated by designer drugs (DREADD)
4. Measuring brain activity during a task using Magnetoencephalography (MEG)

Links to additional info

1. Egawa J et al. Whole-exome sequencing in a family with a monozygotic twin pair concordant for autism spectrum disorder and a follow-up study. *Psychiatry Res* 229(1-2): 599-601, 2015. <https://www.sciencedirect.com/science/article/pii/S0165178115004631?via%3Dihub>
2. Egawa J et al. Rare UNC13B variations and risk of schizophrenia: Whole-exome sequencing in a multiplex family and follow-up resequencing and a case-control study. *Am J Med Genet B Neuropsychiatr Genet*. 2016 Sep;171(6):797-805. <https://onlinelibrary.wiley.com/doi/abs/10.1002/ajmg.b.32444>
3. Tajiri M et al. Hormonal dynamics effect of serum insulin-like growth factor I and cortisol/dehydroepiandrosterone sulfate ratio on symptom severity of major depressive disorder. *J Clin Psychopharmacol* 39(4): 367-371, 2019. <https://insights.ovid.com/crossref?an=00004714-201907000-00013>
4. Motegi T et al. Identifying the factor structure of the Mother-to-Infant Bonding Scale for postpartum women and examining its consistency during pregnancy (letter). *Psychiatry Clin Neurosci* 73(10): 661-662, 2019. <https://onlinelibrary.wiley.com/doi/full/10.1111/pcn.12920>
5. Lab HP (Japanese). <http://www.niigata-dp.org/>