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ASSOCIATION STUDY BETWEEN GLUCOCORTICOID RECEPTOR POLYMORPHISMS AND PERSONALITY TRAITS IN HEALTHY SUBJECTS

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Aims: Previous studies have shown that the function of hypothalamic-pituitary-adrenal (HPA) axis is involved in the characterization of personality traits. Glucocorticoid receptor (GR) is the most important regulator of the HPA axis negative feedback system, and several polymorphisms of the GR gene are associated with altered glucocorticoid sensitivity. In the present study, we examined the associations between the GR polymorphisms and personality traits in healthy subjects.

Methods: Subjects were 880 Japanese healthy volunteers. Personality traits were assessed by the Temperament and Character Inventory (TCI). Two polymorphisms of the GR gene, i.e., G/C SNP in the intron 2 (BclI polymorphism, rs41423247) and A/G SNP in the exon 9 β (9 β polymorphism, rs6198), were detected by a real-time PCR and cycling probe technology for SNP typing.

Results: The genotype distributions were G/G=614, G/C=240, and C/C=26 for the BclI polymorphism, and A/A=879 and A/G=1 for the 9 β polymorphism, respectively. There were no significant associations between the BclI genotype groups in any TCI dimension score.

Conclusion: The present study suggests that these two GR polymorphisms (BclI and 9 β polymorphism) are not involved in the characterization of personality traits in healthy subjects.