

RESEARCH REPORT - No. 1106 FY 2011-2012

Title of research project	Evaluation of aluminum toxicity to neuronal development and estimation of aluminum exposure in population in Japan
Research project no.	(1106)
Research period	FY 2011–2012
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【Abstract】

Aluminum (Al) is one of the major compounds contained in food additives and food contact materials. Accordingly, exposure to and absorption of dietary Al seem to be high in Japan, and people have concerns on the safety of Al. In particular, there are growing concerns on the neurobiological and reproductive toxicity of Al exposures. This study is aimed to investigate the effects of Al on the neurobiological development and to estimate the level of Al exposure in population in Japan. We have established a methodology for aluminum measurement with Inductively Coupled Plasma Mass Spectrometer (ICP-MS) and analyzed Al in blood of population in Japan. Using this system, we estimated Al concentration in population in Japanese. We have also evaluated of Al toxicity to neuronal development with comprehensive behavior analysis. We observed some abnormal behaviors in response to Al exposure. These findings provide useful information and techniques toward an Al risk assessment in the future.