

## **Concentrations of PCDDs, PCDFs and coplanar PCBs in Human Umbilical Cord and Maternal Body Bloods**

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We investigated the concentrations of PCDDs, PCDFs and coplanar PCBs (dioxins) in umbilical cord blood samples collected from normal newborns using a HRGC/HRMS equipped with a Solvent Cut Large Volume (SCLV) injection system, and compared the samples to those of maternal body bloods. It was confirmed that the sensitivity of GCMS by the SCLV injection system could be increased to a level 10 times higher than that of the conventional method. By using this method, dioxins could be detected in all umbilical cord blood samples. The average of total TEQ levels of dioxins in all the samples of umbilical cord blood on the whole basis was compared with those of maternal body blood. The results showed that the concentrations of dioxins present in the umbilical cord were approximately one-quarter those present in the maternal body. These findings strongly suggest that dioxins stored in the maternal body are transferred from the mother to the fetus.