**Supplementary table 1.** Information on rats.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Site** | **Sex** | **Weight (g)** | **Age (day)** | **Age (month)** |
| IRS | F | 135.4 | 183 | 6.1 |
| IRS | F | 140 | 274 | 9.1 |
| IRS | F | 47.1 | 48 | 1.6 |
| IRS | M | 52.6 | 62 | 2.1 |
| IRS | M | 43.8 | 40 | 1.3 |
| IRS | M | 149 | 77 | 2.6 |
| IRS | M | 85.3 | 78 | 2.6 |
| IRS | F | 82.8 | 85 | 2.8 |
| IRS | F | 52.3 | 48 | 1.6 |
| IRS | F | 22 | 134 | 4.5 |
| non-IRS | M | 101.1 | 356 | 11.9 |
| non-IRS | F | 70 | 39 | 1.3 |
| non-IRS | F | 19.5 | 104 | 3.5 |
| non-IRS | M | 19.5 | 137 | 4.6 |
| non-IRS | M | 23.6 | 149 | 5 |
| non-IRS | F | 21.6 | 135 | 4.5 |
| non-IRS | M | 70.6 | 62 | 2.1 |
| non-IRS | F | 69.8 | 55 | 1.8 |

**Supplementary table 2.** Concentration of DDTs in IRS and non-IRS areas.

The concentration of each DDTs was expressed as ng/g wet weight (ww).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| IRS area | 　 | *p,p’*-DDE | *p,p’*-DDD | *p,p’*-DDT | sum of DDTs |
|  |  | (ng/g ww) | (ng/g ww) | (ng/g ww) | (ng/g ww) |
| Brain | Range | 23.2- 250.4 | 31.7-230.4 | 96.5-649.5 | 151.4-1057.6 |
| 　 | Median | 123.2  | 101.3  | 401.8  | 723.9  |
| Kidney | Range | 87.0-818.0 | 144.0-1207.0 | 691.0-10491.0 | 922.0-12516.0 |
| 　 | Median | 475.5  | 485.5  | 3088.0  | 4156.5  |
| Liver | Range | 163.1-1406.8 | 1355.8-4828.7 | 15.8-1278.9 | 1803.4-7025.6 |
| 　 | Median | 543.2  | 3473.5  | 282.4  | 5053.1  |
| Lung | Range | 27.5-3406.2 | 26.8-743.8 | 277.4-4243.3 | 331.6-6122.5 |
| 　 | Median | 222.7  | 115.5  | 1176.1  | 1478.2  |
| Spleen | Range | 43.4-4616.5 | 9.6-1179.6 | 224.6-7682.7 | 277.8-13241.4 |
| 　 | Median | 189.3  | 103.7  | 2378.9  | 3547.5  |
| 　 | 　 | 　 | 　 | 　 | 　 |
| Non-IRS area | 　 | *p,p’*-DDE | *p,p’*-DDD | *p,p’*-DDT | sum of DDTs |
|  |  | (ng/g ww) | (ng/g ww) | (ng/g ww) | (ng/g ww) |
| Brain | Range | 3.9-31.3 | ND-9.3 | ND-12.7 | 11.0-45.4 |
| 　 | Median | 24.6  | 0.4  | 4.9  | 28.7  |
| Kidney | Range | 3.0-75.0 | ND-11.0 | 2.0-78.0 | 16.0-157.0 |
| 　 | Median | 29.5  | 4.5  | 14.0  | 47.0  |
| Liver | Range | 14.2-115.0 | 42.3-262.7 | ND-18.0 | 113.1-390.6 |
| 　 | Median | 77.3  | 126.7  | 13.1  | 189.3  |
| Lung | Range | 7.8-81.8 | ND-7.8 | 5.3-35.8 | 21.2-91.7 |
| 　 | Median | 31.2  | 0.0  | 14.0  | 45.7  |
| Spleen | Range | ND-60.9 | ND-5.9 | ND-3.6 | 2.3-63.0 |
| 　 | Median | 7.9  | 0.0  | 2.2  | 9.7  |

**Supplementary Table 3.** Correlation of gene expression between each gene expression and DDTs concentration.

Correlation of each gene expression, which was quantified and normalized in Figs 1–4, in rat liver was evaluated by Spearman’s correlation test. Male and female rats were separately analyzed and both IRS and non-IRS areas were combined. Each value is the Spearman’s rank correlation coefficient between each pair. Significance was not evaluated owing to the low sample number.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Female | *ahr* | *pxr* | *ppara* | *cyp2a1* | *cyp2a2* | *Cyp2b1* | *Cyp2c11* | *Cyp3a1* | *Cyp3a2* | *Cyp3a18* | *Cyp4a1* | *Cyp7a1* | *Ugt1a6* | *Ugt2b1* | *Sult1e1* |
| *p,p'-*DDE | 0.50  | 0.76  | 0.75  | 0.61  | 0.71  | 0.84  | 0.19  | 0.33  | 0.68  | 0.81  | 0.15  | 0.49  | 0.45  | 0.70  | 0.09  |
| *p,p'-*DDD | 0.39  | 0.72  | 0.81  | 0.61  | 0.71  | 0.72  | -0.32  | 0.15  | 0.79  | 0.61  | 0.47  | 0.20  | 0.28  | 0.62  | -0.04  |
| *p,p'-*DDT | 0.33  | 0.60  | 0.64  | 0.42  | 0.50  | 0.54  | -0.48  | -0.05  | 0.90  | 0.58  | 0.39  | 0.08  | 0.20  | 0.55  | -0.20  |
| ΣDDTs | 0.36  | 0.70  | 0.79  | 0.55  | 0.57  | 0.68  | -0.31  | 0.10  | 0.84  | 0.60  | 0.53  | 0.22  | 0.22  | 0.58  | 0.01  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Male | *ahr* | *pxr* | *ppara* | *cyp2a1* | *cyp2a2* | *Cyp2b1* | *Cyp2c11* | *Cyp3a1* | *Cyp3a2* | *Cyp3a18* | *Cyp4a1* | *Cyp7a1* | *Ugt1a6* | *Ugt2b1* | *Sult1e1* |
| *p,p'-*DDE | 0.17  | 0.00  | 0.00  | 0.38  | -0.31  | 0.69  | 0.14  | -0.24  | -0.05  | -0.12  | 0.43  | -0.31  | -0.26  | 0.40  | 0.10  |
| *p,p'-*DDD | 0.40  | 0.17  | 0.07  | 0.40  | -0.12  | 0.86  | -0.14  | -0.48  | -0.05  | -0.19  | 0.31  | -0.19  | -0.02  | 0.64  | -0.21  |
| *p,p'-*DDT | -0.31  | 0.07  | 0.07  | -0.17  | 0.17  | 0.52  | -0.64  | -0.40  | 0.55  | 0.05  | 0.29  | 0.52  | 0.33  | 0.24  | -0.10  |
| ΣDDTs | 0.40  | 0.17  | 0.07  | 0.40  | -0.12  | 0.86  | -0.14  | -0.48  | -0.05  | -0.19  | 0.31  | -0.19  | -0.02  | 0.64  | -0.21  |