# Measurement of monoamines in mice tissues beyond brain

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# Supplemental

# Retention times

Table 1: Exemplary retention times of analytes with variations over five intraday measurements

|  |  |
| --- | --- |
| **Analyte** | **Retention time [min]** |
| MHPG | 1.67 ± 0.003 |
| DOPAC | 2.53 ± 0.004 |
| NE | 2.74 ± 0.006 |
| E | 3.00 ± 0.003 |
| 5-HIAA | 3.15 ± 0.004 |
| IS | 3.86 ± 0.003 |
| HVA | 4.16 ± 0.004 |
| DA | 5.57 ± 0.005 |
| 3-MT | 10.61 ± 0.011 |
| 5-HT | 11.53 ± 0.01 |

# Stability of standard

Table 2: Peak Area of Analytes in Standard [1ng/20 µL-1] over one month

|  |  |  |  |
| --- | --- | --- | --- |
| **Area Analyte****[nA\*min]** | **16.11.** | **30.11** | **15.12** |
| DOPAC | 306971 | 322349 | 272598 |
| NE | 198489 | 186391 | 178047 |
| E | 184611 | 173670 | 163635 |
| 5-HIAA | 306637 | 255848 | 221852 |
| HVA | 181652 | 181139 | 146972 |
| DA | 189288 | 179717 | 180638 |
| 3-MT | 321602 | 300046 | 278238 |
| 5-HT | 487775 | 471766 | 408961 |
| IS | 328349 | 299136 | 304498 |

# Hypothalamus results (previous study)

40 µl were injected into an HPLC system (Dionex) consisting of a gradient pump (GP40), an autosampler (AS50), and ECD (ED40). The separation of the substances was carried out on a C18-column from Waters (Atlantis T3 100Å, 3 µm, 4.6 mm X 150 mm), with a preceding security guard cartridge (Phenomenex, LB71270310) to prevent blocking and contamination of the column. An isocratic elution with a commercially available mobile phase from RECIPE (Mobile Phase, Order No. 1210, ClinRep® commercial HPLC) with 5.5 % (v/v) added acetonitrile and a flow rate of 0.5 ml/min were used.

Table 3: Amount of analytes in previous Hyopthalamus study; mean of n= 8

|  |  |
| --- | --- |
| **Analyte** | **[pg/mg]** |
| DA | 608 ± 122 |
| DOPAC | 169 ± 47 |
| 3-MT | 18 ± 5 |
| HVA | 113 ± 43 |
| NE | 1729 ± 463 |
| E | 6 ± 2 |
| 5-HT | 2008 ± 442 |
| 5-HIAA | 998 ± 257 |
| DA | 1. ±122
 |

# Overview over ratios in metabolic networks

Table 4: Ratios between active compounds and their metabolites and between active compounds.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Analyte [pg/mg] | Hypothalamus[n=5] | EDL[n=6] | Soleus[n=6] | Gastrocnemius[n=6] | eWAT[n=6] | Pancreas[n=4] | Liver[n=6] |
| DA/DOPAC | 4.2 | - | - | 0.3 | - | 0.8 | - |
| DA/3-MT | - | - | - | - | - | - | - |
| DA/HVA | 5.8 | - |  | 0.2 | - | 0.8 | - |
| DOPAC/HVA | 1.4 | 1.3 | 1.3 | 0.8 | - | 1.0 | 5.0 |
| 3-MT/HVA | - | - | - | - | - | - | - |
| NE/E | - | - | - | - | - | - | - |
| NE/MHPG | 2.2 | 1.0 | 0.5 | 0.3 | 0.8 |  | - |
| E/MHPG | - | - | - | - | - | - | - |
| 5-HT/5-HIAA | 2.4 | - |  | - | 13 | 1.8 | 8.7 |
| NE/5-HT | 1.3 | 2.0 | 1.3 | 1.4 | 1.0 | 9.5 | 0.7 |
| DA/NE | 0.4 | - | - |  | - | 0.1 | - |
| DA/5-HT | 0.5 | - | - |  | - | 0.6 | - |