

# Dried Urine Reference Ranges – Neurotransmitters

Dried Urine Test	Reference Ranges for WOMEN & MEN*
<b>INHIBITORY</b>	
Serotonin (5-HT)	47.6 - 140.3 $\mu\text{g/g Cr}$ Optimum 61.0 - 103.2
5-HIAA	2205 - 11816 $\mu\text{g/g Cr}$ Optimum 2988 - 5850
GABA	167 - 463 $\mu\text{g/g Cr}$ Optimum 193 - 367
Glycine (Gly)	41 - 295 $\text{mg/g Cr}$ Optimum 61 - 159
<b>EXCITATORY</b>	
Glutamate (Glu)	1213 - 4246 $\mu\text{g/g Cr}$ Optimum 1515 - 2710
Histamine (HIST)	7.6 - 35.4 $\mu\text{g/g Cr}$ Optimum 10.1 - 22.3
Phenylethylamine (PEA)	3.6 - 38.8 $\mu\text{g/g Cr}$ Optimum 5.3 - 16.1
Dopamine (DA)	103 - 282 $\mu\text{g/g Cr}$ Optimum 144 - 240
DOPAC	495 - 2456 $\mu\text{g/g Cr}$ Optimum 658 - 1449
Homovanillic Acid (HVA)	3025 - 9654 $\mu\text{g/g Cr}$ Optimum 3737 - 7048
Norepinephrine (NE)	10.0 - 35.7 $\mu\text{g/g Cr}$ Optimum 15.0 - 28.1
Normetanephrine (NMN)	13.4 - 44.8 $\mu\text{g/g Cr}$ Optimum 17.9 - 31.7
Epinephrine (Epi)	0.8 - 6.2 $\mu\text{g/g Cr}$ Optimum 1.4 - 4.2
Ratio: Norepinephrine / Epinephrine	2.9 - 25.2 Optimum 5.2 - 13.7
Vanillylmandelic Acid (VMA)	1996 - 5939 $\mu\text{g/g Cr}$ Optimum 2580 - 4766
Creatinine	0.3 - 2.0 $\text{mg/mL}$

\*Results are expressed per gram of creatinine to correct for urine dilution.