|  |  |
| --- | --- |
| Phenotype | What is it? |
| White blood cell count  Range: 3.72 to 11.53  Mean: 7.28 (1.34)  Need to multiply by 103 | Measured in WBC/mm3.  5 major types of WBC:  - Neutrophils  - Lymphocytes  - Eosinophils  - Monocytes  - Basophils |
| Red blood cell count  Range: 9.04 to 12.21  Mean: 10.79 (0.45)  Need to multiply by 106 | Measured in RBC/mm3.  Contains hemoglobin  These cells carry oxygen throughout the body.  Measures the number of red blood cells in a volume of blood. |
| Hemoglobin  Range: 15.74 to 19.54  Mean: 17.72 (0.54) | Measured as the amount of hemoglobin, in g/dl of blood.  Protein that enables RBCs to carry oxygen from the lungs to the rest of the body. |
| Hematocrit  Range: 46.8 to 61.8  Mean: 53.58 (2.49) | Measures the percentage of the whole blood occupied by red blood cells.  It is the ratio of the volume of red cells to the volume of whole blood. |
| Mean cell volume  (=Mean corpuscular volume)  Range: 45.4 to 55.8  Mean: 49.66 (1.73) | Measured in femtoliters (10−15 litres).  It is the average volume of a red blood cell. This is a calculated value derived from the [hematocrit](http://www.medicinenet.com/hematocrit/article.htm) and the red cell count. |
| Mean corpuscular hemoglobin  Range: 14.89 to 17.19  Mean: 15.70 (0.31) | Measured in picograms (10-12 g)  Measures the amount of hemoglobin in an average red blood cell. Measured as the amount of hemoglobin in a RBC. |
| Mean cell hemoglobin concentration  Range: 30.64 to 35.84  Mean: 33.39 (1.17) | Measured in % or g/dl?  It is the average concentration of hemoglobin in a given volume of RBC. The MCHC is a calculated value derived from the measurement of hemoglobin and the hematocrit. It is calculated by dividing the hemoglobin by the [hematocrit](https://en.wikipedia.org/wiki/Hematocrit). |
| Platelet count  Range: 636 to 1892  Mean: 1215 (171)  -- don't know what unit is this -- | Measured in platelet/mm3.  (Usually ranges between 3x105 and 10x105 in adult mice)  The calculated number of platelets in a volume of blood. Platelets are the smallest cell-like structures in the blood and are important for blood clotting and plugging damaged blood vessels. |
| Mean platelet volume  Range: 5.2 to 7.5  Mean: 6.45 (0.43) | Measured in ??  It is the average volume of a platelet. |
| Red blood cell distribution width  Range: 11.9 to 15.9  Mean: 12.78 (0.46) | I think it is measured as a coefficient of variation.  It is a measure of the range of variation of [red blood cell](https://en.wikipedia.org/wiki/Red_blood_cell) (RBC) volume (not the width - diameters - of the cells). |
| Differential count   * Neutrophil Range: 5.7 to 32.4 Mean: 11.58 (2.46) * Lymphocyte Range: 63 to 93 Mean: 82.34 (3.19) * Monocyte Range: 0.1 to 2.8 Mean: 1.32 (0.45) * Eosinophil Range: 0.56 to 17.1 Mean: 3.77 (1.47) * Basophil Range: 0.15 to 1.45 Mean: 0.54 (0.16) | Differential blood count gives relative percentage of each type of white blood cell.  Normal ranges:  - Lymphocyte 70-80%  - Neutrophil 20-30%  - Monocyte, Eosinophil, rare  - Basophil, very rare  The 5 differential counts add up to 100%. |
| Large Unstained Cell (LUC) differential count  Range: 0.23 to 2.83 Mean: 0.78 (0.40) | LUC reflects atypical lymphocytes or blasts. And it seems like physicians are a bit confused with this kind of cells... http://www.clinchem.org/content/45/7/1100.full |

http://www.cshlpress.com/pdf/sample/MouseHema4.pdf

http://www.internationaljournalofcardiology.com/article/S0167-5273(15)30284-9/abstract Hemoglobin and Monocytes may be linked?

http://www.hematology.org/Patients/Basics/