****

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **GBIS 2.0** **Data element** | **Value domain** | **Permissible values**1 | **Value meaning**  | **Comment** |  |
| sample\_id | text[30] | - | - | Unique code within the biobank for the storage of the sample |  |
| parent\_sample\_id | text[30] | - | - | The parent sample identity if the sample is an aliquot |  |
| material\_type |  |  |  | The biospecimen type saved from a biological entity for testing, diagnostic, propagation, treatment or research purposes. Corresponds to sample type in LIMS. |  |
|  | text[3] | BLD | Whole blood |  |  |
|  |  | BUF | Unficolled cryopreserved buffy coat, viable |  |  |
|  |  | BFF | Unficolled buffy coat, non-viable |  |  |
|  |  | CDN | ComplementaryDNA (cDNA) |  |  |
|  |  | CEL | PBMC cells, viable |  |  |
|  |  | CRD | Cord blood |  |  |
|  |  | DWB | Dried whole blood |  |  |
|  |  | PEL | PBMC cells, non-viable |  |  |
|  |  | PL\* | Plasma, all |  |  |
|  |  | PL1 | Plasma, single-spun |  |  |
|  |  | PL2 | Plasma, double-spun |  |  |
|  |  | RBC | Red blood cells |  |  |
|  |  | SER | Serum |  |  |
|  |  | XDA | Extracted DNA |  |  |
|  |  | WDA | Whole Genome Amplified DNA |  |  |
|  | text[40] |  | Method used for extracting DNA |  |  |
|  |  | XPA | Extracted RNA |  |  |
|  | text[40] |  | Method used for extracting RNA |  |  |
|  |  | XTN | Extracted total nucleic acid |  |  |
|  |  | XPR | Extracted total proteins |  |  |
|  |  | ZZZ | Other |  |  |
| 1 Permissible values according to SPREC [4], with supplementary derivative codes from LDMS [5]. |  |  |
| sample\_amount | decimal number | - | - | The amount of samples in store |  |
| sample\_amount\_unit | text[2] | mL | Milliliter |  |  |
|  |  | uL1 | Microliter |  |  |
|  |  | nL | Nanoliter |  |  |
| sample\_storage\_organization | text[30] | - | - | The biobank id storing the sample |  |
| sample\_storage\_time | text[13] | - | - | The time point when the sample was stored after completed preanalytical handling |  |
| sample\_storage\_temp | text[4] |  | The temperature the sample is stored at after completed preanalytical handling |  |
| sampling \_time | text[13] |  | The time point when the sample was taken |  |
| sample\_prestorage\_temp | text[4] |  | The temperature the sample is kept in before completed preanalytical handling |  |
| sprec\_code | text[17] | Permissible values are listed in the SPREC definition [4]. |  |  |
|  |  |  |  |  |
| donor\_id\_type | text[3] | PNR | Personal identity number |  |  |
|  |  | CNR | Coordination number | To ensure the traceability of samples back to the individual. Can either use PNR, CNR or RNR |  |
|  |  | RNR | Reserve number |  |  |
| donor\_id | text[30] | - | - | Which of the above id\_types is used |  |
|  |  |  |  |  |  |
| consent\_purpose | text[6] | vardbe1 | The sample may be used in healthcare and treatment |  |  |
|  |  | kvautv | The sample may be used in quality assurance, development and education within healthcare |  |  |
|  |  | foklpr | The sample may be used in research and clinical trials |  |  |
|  |  | spefor | The sample may be used in a specific research study |  |  |
| consent\_decision | integer | 1 | Yes |  |  |
|  |  | 0 | No |  |  |
| consent\_date | text[8] | - | - |  |  |
|  |  |  |  |  |  |
| sample\_collection\_id | text[30] | - | - | An identifier of the sample collection to which the sample belongs (by the Health and Social Care Inspector) |  |
| study\_id | text[30] | - | - | If the stored sample is used for a specific research study |  |

1 The permissible values are based on the attribute descriptions for data reports to the Swedish Biobank Register [7].

|  |
| --- |
| **Additional information which would be desirable if available** |
| quality\_measurement\_type | text[20] | FREEZE\_THAW\_CYCLES | The number of freeze-thaw cycles the sample has undergone |  |  |
| quality\_measurement\_result | integer | - | - |  |  |
| quality\_measurement\_unit | text[5] | Not applicable |  |  |
| quality\_measurement\_type | text[20] | DNA\_CONC\_UV | Measurement of the DNA concentration by the sample absorbance of ultraviolet radiation at 260 nm wavelengths. |  |  |
|  |  | DNA\_CONC\_PG | Measurement of the DNA concentration using the PicoGreen assay. |  |  |
| quality\_measurement\_result | decimal number | - | - |  |  |
| quality\_measurement\_unit | text[5] | ug/ml1 | Micrograms per milliliter (corresponds to nanograms per microliter) |  |  |
| quality\_measurement\_type | text[20] | DNA\_PURITY\_UV | Measurement of DNA purity by the ratio of absorbance of ultraviolet radiation at 260 nm and 280 nm wavelength. |  |  |
| quality\_measurement\_result | decimal number | - | - |  |  |
| quality\_measurement\_unit | text[5] | Not applicable |  |  |
| quality\_measurement\_type | text[20] | RNA\_CONC\_UV | Measurement of the RNA concentration by the sample absorbance of ultraviolet radiation at 260 nm wavelength. |  |  |
|  |  | RNA\_CONC\_RG | Measurement of the RNA concentration using the RiboGreen assay. |  |  |
| quality\_measurement\_result | decimal number | - | - |  |  |
| quality\_measurement\_unit | text[5] | ug/ml1 | Micrograms per milliliter (corresponds to nanograms per microliter) |  |  |
|  |  | ng/ml | Nanograms per milliliter (corresponds to picograms per microliter) |  |  |
| 1 Microliter is denoted with the Latin letter u, (uL), not with the formally correct Greek letter μ (μL). The reason is that the character representation of mu varies between character sets, which may cause problems when information is transferred from one information system to another. |  |  |
| quality\_measurement\_type | text[20] | RIN | Measurement of RNA integrity. |  |  |
| quality\_measurement\_result | decimal number | - | - |  |  |
| quality\_measurement\_unit | text[5] | Not applicable |  |  |
| quality\_measurement\_type | text[20] | WBC | Measurement of the total number of leukocytes (white blood cells) in the sample. |  |  |
| quality\_measurement\_result | decimal number | - | - |  |  |
| quality\_measurement\_unit | text[5] | 1/nL | The number of cells per nanoliter (corresponds to billions of cells per liter) |  |  |
|  |  |  |  |  |  |
| deviation\_type | text[3] | BKV | Broken or cracked vial |  |  |
|  |  | CTM | Contaminated |  |  |
|  |  | HEM | Hemolyzed |  |  |
|  |  | ICT | Icteric (excess bilirubin) |  |  |
|  |  | INT | Incorrect tube |  |  |
|  |  | LIP | Lipemic |  |  |
|  |  | LKD | Leaked |  |  |
|  |  | LYS | Lysed |  |  |
|  |  | QNS | Quantity not sufficient |  |  |
|  |  | TEM | Temperature changed during storage. An explanatory comment should be given (0) |  |  |
|  |  | TWD | Thawed |  |  |
|  |  | OTH | Other. An explanatory comment should be given (0) |  |  |
| deviation\_comment | text[50] | - | - |  |  |

****