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| --- | --- | --- | --- | --- | --- | --- | --- |
| **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].

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| **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] | | | - | | - | | |  |  |

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