



EBMT Centre Identification Code (CIC): \_\_\_\_\_  
 Hospital Unique Patient Number (UPN): \_\_\_\_\_  
 Patient Number in EBMT Registry: \_\_\_\_\_

Treatment Type  HCT  CT  IST  Other  
 Treatment Date \_\_\_\_/\_\_\_\_/\_\_\_\_ (YYYY/MM/DD)

## INBORN ERRORS

### DISEASE

Date of diagnosis: \_\_\_\_/\_\_\_\_/\_\_\_\_ (YYYY/MM/DD)

**Classification:**

- Inborn errors of immunity (IEI)
- Inborn errors of metabolism
- Other inborn errors

**Is the patient registered in another registry?**

- No
- Yes:
  - ESID  
 Patient Registry Number: \_\_\_\_\_
  - Other; specify: \_\_\_\_\_  
 Patient Registry Number: \_\_\_\_\_

## Inborn Errors of Immunity (IEI)

### DISEASE

Specify the gene in which a disease-causing variant was observed:

|  |  |
|--|--|
| <input type="checkbox"/> Gene from <i>Appendix 1</i> ; specify: _____<br><br><input type="checkbox"/> Other gene; specify: _____<br><br><input type="checkbox"/> Unknown | <p><b>Effect of mutation:</b></p> <input type="checkbox"/> Gain of function<br><input type="checkbox"/> Loss of function<br><br><p><b>Mutation type:</b></p> <input type="checkbox"/> Germline mutation<br><input type="checkbox"/> Somatic mutation |
| Mutation in additional gene; specify: _____  |  |

Classification (*IUIS*):

|  |
|--|
| <input type="checkbox"/> Combined Immune deficiency including SCID: <ul style="list-style-type: none"> <li><input type="checkbox"/> SCID*</li> <li><input type="checkbox"/> CID*</li> <li><input type="checkbox"/> CID with associated or syndromic features*</li> </ul>   |
| <input type="checkbox"/> Predominantly antibody deficiency: <ul style="list-style-type: none"> <li><input type="checkbox"/> Hypogammaglobulinemia</li> <li><input type="checkbox"/> Other antibody deficiency</li> </ul>   |
| <input type="checkbox"/> Diseases of immune dysregulation: <ul style="list-style-type: none"> <li><input type="checkbox"/> HLH and susceptibility to EBV</li> <li><input type="checkbox"/> Syndromes with autoimmunity and others</li> </ul>   |
| <input type="checkbox"/> Phagocyte defects: <ul style="list-style-type: none"> <li><input type="checkbox"/> Neutropenia without anti-neutrophil antibodies</li> <li><input type="checkbox"/> Functional defects</li> </ul>   |
| <input type="checkbox"/> Defects in intrinsic and innate immunity: <ul style="list-style-type: none"> <li><input type="checkbox"/> Predisposition to bacterial, fungal and parasitic infections including Mendelian Susceptibility to Mycobacterial Disease (MSMD)</li> <li><input type="checkbox"/> Predisposition to viral infections</li> </ul> |
| <input type="checkbox"/> Autoinflammatory disorders: <ul style="list-style-type: none"> <li><input type="checkbox"/> Recurrent and systemic inflammations</li> <li><input type="checkbox"/> Sterile inflammation and interferonopathies</li> </ul>   |
| <input type="checkbox"/> Complement deficiencies   |
| <input type="checkbox"/> Bone marrow failures**  |
| <input type="checkbox"/> Phenocopies of IEI  |

\*Please fill in an additional immunophenotype form

\*\*Please fill in the "Bone Marrow Failure Syndromes (BMF) incl. Aplastic Anaemia (AA)" indication diagnosis form in addition to the current form (optional)

## Inborn Errors of Metabolism

### DISEASE

Specify the gene in which a disease-causing variant was observed:

|  |  |
|--|--|
| <input type="checkbox"/> Gene from <i>Appendix 2</i> ; specify: _____<br><br><input type="checkbox"/> Other gene; specify: _____<br><br><input type="checkbox"/> Unknown | <p><b>Effect of mutation:</b></p> <input type="checkbox"/> Gain of function<br><input type="checkbox"/> Loss of function<br><br><p><b>Mutation type:</b></p> <input type="checkbox"/> Germline mutation<br><input type="checkbox"/> Somatic mutation |
| Mutation in additional gene; specify: _____  |  |

**Classification:**

MPS:  Severe  Attenuated

MPS type:

- MPSI (Hurler)
- MPSII (Hunter)
- MPSIII (Sanfilippo), type:
  - A  B
- MPSIV (Morquio), type:
  - A  B
- MPSVI (Maroteax Lamy)
- MPSVII (Sly)
- I-cell disease

Other lysosomal storage diseases:

- Tay sachs
- Metachromatic leukodystrophy (MLD)
- Aspartylglucosaminuria (AGU)
- Gaucher
- Alfa-mannosidosis
- CLN
- Wolman
- Niemann-Pick disease
- Fucosidosis
- Sialidosis
- Fabry
- Pompe
- Other; specify: \_\_\_\_\_

### DISEASE continued

#### Classification (continued):

- Other metabolic disorders (non LSD):
  - X-ALD
  - Glycogen storage disease Ib
  - MNGIE
  - SIFD
  - Krabbe (globoid cell leukodystrophy)
  - Other; specify: \_\_\_\_\_

### Other Inborn Errors

### DISEASE

#### Specify the gene in which a disease-causing variant was observed:

|   |  |
|---|--|
| <input type="checkbox"/> Gene from <i>Appendix 3</i> ; specify: _____ | <b>Effect of mutation:</b><br><input type="checkbox"/> Gain of function<br><input type="checkbox"/> Loss of function<br><b>Mutation type:</b><br><input type="checkbox"/> Germline mutation<br><input type="checkbox"/> Somatic mutation |
| <input type="checkbox"/> Other gene; specify: _____                   |  |
| <input type="checkbox"/> Unknown                                      |  |
| Mutation in additional gene; specify: _____                           |  |

#### Classification:

|   |
|---|
| <input type="checkbox"/> Glanzmann thrombasthenia                               |
| <input type="checkbox"/> Other inherited platelet abnormalities; specify: _____ |
| <input type="checkbox"/> Porphyria  |
| <input type="checkbox"/> Osteopetrosis  |
| <input type="checkbox"/> Other inborn error; specify: _____                     |



EBMT Centre Identification Code (CIC): \_\_\_\_\_  
 Hospital Unique Patient Number (UPN): \_\_\_\_\_  
 Patient Number in EBMT Registry: \_\_\_\_\_

Treatment Type  HCT  CT  IST  Other  
 Treatment Date \_\_\_\_/\_\_\_\_/\_\_\_\_ (YYYY/MM/DD)

Extended dataset

**Immune profiling**

Immune profiling done at diagnosis:  No  Yes  Unknown

Test date: \_\_\_\_/\_\_\_\_/\_\_\_\_ (YYYY/MM/DD)  Unknown

| Cell type and test results            |   | Units (for CD4 and CD8, select unit)                                      |
|---------------------------------------|---|---|
| CD3 T-cells: _____                    | <input type="checkbox"/> Not evaluated <input type="checkbox"/> Unknown | Cells/ $\mu$ l  |
| CD4 T-cells: _____                    | <input type="checkbox"/> Not evaluated <input type="checkbox"/> Unknown | Cells/ $\mu$ l  |
| CD8 T-cells: _____                    | <input type="checkbox"/> Not evaluated <input type="checkbox"/> Unknown | Cells/ $\mu$ l  |
| B-cells (i.e. CD19): _____            | <input type="checkbox"/> Not evaluated <input type="checkbox"/> Unknown | Cells/ $\mu$ l  |
| NK-cells (CD16/CD56): _____           | <input type="checkbox"/> Not evaluated <input type="checkbox"/> Unknown | Cells/ $\mu$ l  |
| Naive CD4 T-cells (CD4/CD45RA): _____ | <input type="checkbox"/> Not evaluated <input type="checkbox"/> Unknown | <input type="checkbox"/> % of CD4 <input type="checkbox"/> Cells/ $\mu$ l |
| Naive CD8 T-cells (CD8/CD45RA): _____ | <input type="checkbox"/> Not evaluated <input type="checkbox"/> Unknown | <input type="checkbox"/> % of CD8 <input type="checkbox"/> Cells/ $\mu$ l |
| IgG: _____                            | <input type="checkbox"/> Not evaluated <input type="checkbox"/> Unknown | Gram/l  |
| IgA: _____                            | <input type="checkbox"/> Not evaluated <input type="checkbox"/> Unknown | Gram/l  |
| IgM: _____                            | <input type="checkbox"/> Not evaluated <input type="checkbox"/> Unknown | Gram/l  |

**APPENDIX 1**  
 -- List of genes/abnormalities involved in Inborn Errors of Immunity (IEI) --

|                            |         |                  |                   |              |
|----------------------------|---------|------------------|-------------------|--------------|
| 10p13-p14 deletion         | C1QB    | CD8A             | DCLRE1C (ARTEMIS) | FPR1         |
| 11q23del (Jacobsen)        | C1QC    | CDC42            | DEF6              | G6PC3        |
| 14q32                      | C1R     | CEBPE            | DIAPH1            | G6PD         |
| 22q.11.2 deletion syndrome | C1S     | CFB              | DKC1              | G6PT1        |
| ACD                        | C2      | CFD              | DNAJC21           | GATA2        |
| ACP5                       | C2orf69 | CFH              | DNASE1L3          | GFI1         |
| ACT1                       | C3      | CFHR1            | DNASE2            | GINS1        |
| ACTB                       | C4A     | CFHR2            | DNMT3B            | HAVCR2       |
| ADA                        | C4B     | CFHR3            | DOCK2             | HAX1         |
| ADA2                       | C6      | CFHR4            | DOCK8             | HCK          |
| ADAM17                     | C7      | CFHR5            | EFL1              | HELLS        |
| ADAR1                      | C8A     | CFTR             | ELANE             | HMOX         |
| AICDA                      | C8B     | CHD7             | ELF4              | HYOU1        |
| AIRE                       | C8G     | CIB1             | EPG5              | ICOS         |
| AK2                        | C9      | CIITA            | ERBB21P           | ICOSL        |
| ALP1                       | CARD11  | CLCN7            | ERCC4             | IFIH1        |
| AP1S3                      | CARD14  | CLPB             | ERCC6L2           | IFNAR1       |
| AP3B1                      | CARD9   | CNFX1            | EXTL3             | IFNAR2       |
| AP3D1                      | CASP10  | COH1             | FAAP24            | IFNG         |
| APOL1                      | CASP8   | COPA             | FADD              | IFNGR1       |
| ARHGEF                     | CCBE1   | COPG1            | FANCA             | IFNGR2       |
| ARPC1B                     | CD132   | CORO1A           | FANCB             | IGHM         |
| ATAD3A                     | CD19    | CRACR2A          | FANCC             | IGKC         |
| ATG4A                      | CD20    | CSF2RB           | FANCD2            | IGLL1        |
| ATM                        | CD21    | CSF3R            | FANCE             | IKBKB        |
| ATP6AP1                    | CD27    | CTC1             | FANCF             | IKBKG (NEMO) |
| B2M                        | CD28    | CTLA4            | FANCI             | IKKA (CHUK)  |
| BACH2                      | CD3D    | CTNBL1           | FANCL             | IKZF1        |
| BCL10                      | CD3E    | CTPS1            | FANCM             | IKZF2        |
| BCL11B                     | CD3Z    | CTSC             | FAT4              | IKZF3        |
| BLM                        | CD40L   | CXCR2            | FCGR3A            | IL10         |
| BLNK                       | CD40LG  | CXCR4            | FCH01             | IL10RA       |
| BRCA1                      | CD46    | CYBA             | FCN3              | IL10RB       |
| BRCA2 (FANCD1)             | CD55    | CYBB             | FERMT1            | IL12B        |
| BRIP1                      | CD59    | CYBC1            | FERMT3 (LAD3)     | IL12RB1      |
| BTK                        | CD79A   | DBR1             | FNIP1             | IL12RB2      |
| C16ORF57                   | CD79B   | DCAB1            | FOXN1             | IL17F        |
| C1QA                       | CD81    | DCLRE1B (APOLLO) | FOXP3             | IL17RA       |

**APPENDIX 1**

-- List of genes/abnormalities involved in Inborn Errors of Immunity (IEI) -- continued

|              |               |               |                 |                 |
|--------------|---------------|---------------|-----------------|-----------------|
| IL17RC       | LIG1          | NFKBIB (IKBB) | POU2AF1         | RNU4ATAC        |
| IL18BP       | LIG4          | NHEJ1         | PRF1            | RORC            |
| IL1RN        | LPIN2         | NLRC4         | PRKCD           | RPSA            |
| IL21         | LRBA          | NLRP1         | PRKDC           | RTEL1           |
| IL21R        | LSM11         | NLRP12        | PSEN            | SAMD9           |
| IL23R        | LYST          | NLRP3         | PSENEEN         | SAMD9L          |
| IL2RA        | MAD2L2        | NOD2          | PSMB8           | SAMHD1          |
| IL2RB        | MAGT1         | NOLA2 (NHP2)  | PSMB9           | SASH3           |
| IL2RG        | MALT1         | NOLA3 (NOP10) | PSTPIP1         | SBDS            |
| IL36RN       | MAN2B2        | NOS2          | PTEN            | SEC61A1         |
| IL6R         | MAP1LC3B2     | NRAS          | PTPRC           | SEMA3E          |
| IL6ST        | MAP3K14       | NSMCE3        | RAB27A          | SERPING1        |
| IL7R         | MAPK8         | OAS1          | RAC2            | SH2D1A          |
| IMCDCA7      | MASP2         | ORAI1         | RAD51           | SH3BP2          |
| INO80        | MCM4          | OSTM1         | RAD51C          | SH3KBP1 (CIN85) |
| IRAK1        | MECOM         | OTULIN        | RAG1            | SKIV2L          |
| IRAK4        | MEFV          | PALB2         | RAG2            | SLC29A3         |
| IRF2BP2      | MKL1          | PARN          | RANBP2          | SLC35C1 (LAD2)  |
| IRF3         | MOGS (GCS1)   | PAX1          | RASGRP1         | SLC39A7         |
| IRF4         | MSH6          | PDCD1         | RBCK1           | SLC46A1         |
| IRF7         | MSN           | PEPD          | REL             | SLC7A7          |
| IRF8         | MTHFD1        | PFC           | RELA            | SLP76           |
| IRF9         | MVK           | PGM3          | RELB            | SLX4            |
| ISG15        | MYD88         | PIK3CD        | RFWD3           | SMARCAL1        |
| ITCH         | MYSM1         | PIK3CG        | RFX5            | SMARCD2         |
| ITGB2 (LAD1) | NBAS          | PIK3R1        | RFXANK          | SNORA31         |
| ITK          | NBS1          | PLCG2         | RFXAP           | SNX10           |
| ITPKB        | NCF1          | PLEKHM1       | RHOG            | SOCS1           |
| JAGN1        | NCF2          | PLOD2         | RHOH            | SP110           |
| JAK1         | NCF4          | PMS2          | RIPK1           | SPI1            |
| JAK3         | NCKAP1L       | PNP           | RLTPR (CARMIL2) | SPINK5          |
| KDM6A        | NCM10         | POLA1         | RMRP            | SPPL2A          |
| KMT2A (MLL)  | NCSTN         | POLD1         | RNASEH2A        | SRP54           |
| KMT2D (MLL2) | NFAT5         | POLE1         | RNASEH2B        | SRP72           |
| KRAS         | NFE2L2        | POLE2         | RNASEH2C        | STAT1           |
| LAMTOR2      | NFKB1         | POLR3A        | RNF168          | STAT2           |
| LAT          | NFKB2         | POLR3C        | RNF31           | STAT3           |
| LCK          | NFKBIA (IKBA) | POLR3F        | RNO7            | STAT5B          |

**APPENDIX 1**  
 -- List of genes/abnormalities involved in Inborn Errors of Immunity (IEI) -- continued

|                  |                   |
|------------------|-------------------|
| STIM1            | TNFRSF4           |
| STK4             | TNFRSF6           |
| STN1             | TNFRSF9           |
| STX11            | TNFSF11           |
| STXBP2           | TNFSF13 (APRIL)   |
| SYK              | TNFSF6            |
| TAP1             | TNFSF7 (CD70)     |
| TAP2             | TOP2B             |
| TAPBP            | TP53              |
| TAZ              | TPP1              |
| TBK1             | TPP2              |
| TBX1             | TRAC              |
| TBX21            | TRAF3             |
| TCF3             | TREX1             |
| TCIRG1           | TRIM22            |
| TCN2             | TRNT1             |
| TERC             | TTC37             |
| TERT             | TTC7A             |
| TET2             | TWEAK (TNFSF12)   |
| TFRC             | TYK2              |
| TGFB1            | UBA1              |
| TGFBR1           | UBE2T             |
| TGFBR2           | UNC13D (Munc13.4) |
| THBD             | UNC93B1           |
| TICAM1 (TRF)     | UNG               |
| TINF2            | USP18             |
| TIRAP            | VPS45             |
| TLR3             | WAS               |
| TLR7             | WDR1              |
| TLR8             | WIPF1             |
| TMC6             | WRAP53            |
| TMC8             | XIAP              |
| TMEM173          | XRCC2             |
| TNFAIP3          | XRCC9             |
| TNFRSF11A        | ZAP70             |
| TNFRSF13B (TACI) | ZBTB24            |
| TNFRSF13C        | ZNF341            |
| TNFRSF1A         | ZNKFX1            |



**APPENDIX 2**  
 -- List of genes involved in Inborn Errors of Metabolism --

|        |        |         |
|--------|--------|---------|
| ABCD1  | GNPTG  | NPC1    |
| AGA    | GUSB   | NPC2    |
| ARSA   | HEXA   | POLG    |
| ARSB   | IDS    | PPT1    |
| FUCA1  | IDUA   | RRM2B   |
| GAA    | LIPA   | SGSH    |
| GALNS  | MAN2B1 | SLC37A4 |
| GBA    | MANBA  | SMPD1   |
| GLA    | NAGLU  | TRNT1   |
| GLB1   | NEU1   | TYMP    |
| GNPTAB |        |         |

**APPENDIX 3**  
 -- List of genes involved in Other Inborn Errors --

|                     |        |         |
|---------------------|--------|---------|
| 11q23del (Jacobsen) | GP1BA  | OSTM1   |
| ALAS2               | GP1BB  | PLEKHM1 |
| ANKRD26             | GP9    | RANK    |
| CA2                 | HOXA11 | RBM8A   |
| CICN7               | ITGA2B | RUNX1   |
| DIAPH1              | ITGB3  | SLFN14  |
| ETV6                | MECOM  | SNX10   |
| FECH                | MPL    | TCIRG1  |
| FERMT3              | MYH9   | THPO    |
| FLI1                | NBEAL2 | UROS    |
| GNE                 | NEMO   | WAS     |