

ULR File Specification

ULR File Structure

GenXys provides conversion to the ULR file type for certain types of data files. The URL converter can be downloaded from the onboarding dashboard. See Appendix 1 for a sample of the ULR format. The structure of the files is specified in the following tables:

1. ULR (root)

Mandatory	Name	Type	Description
Y*	Genotype	Array of <Genotype> (see 2)	Genotype results
Y*	StarAllele	Array of <StarAllele> (see 3)	Star Allele results
Y*	PhenoType	Array of <Phenotype> (see 4)	Phenotype results
Y*	AllelePresence	Array of <AllelePresence> (see 5)	Allele presence results
Y*	CopyNumber	Array of <CopyNumber> (see 6)	Copy number results
Y*	SupplementaryResults	Array of <SupplementaryResult> (see 7)	Any other result not specified herein above

*The array can be empty, depending on the type of information the lab samples.

2. Genotype

Mandatory	Name	Type	Description	Example
Y	RSID	String	RSID identifier	rs2231142
Y	Genotype	String	Genotype result	G/G

3. StarAllele

Mandatory	Name	Type	Description	Example
Y	Gene	String	Gene identifier	CYP2D6

Y	Value	String	Star Allele result	*5/*6, (*5/*6)4N or *5/*6x3
Y	GeneticTestsDerivedFrom	Array of string	Details of translation underlying items	CYP2D6_CopyNumber rs1065852 rs59421388 rs5030867 rs28371706 rs5030655 rs3892097 rs35742686 rs5030656 rs16947 rs28371725 rs1135840

4. **Phenotype** (Only mandatory if lab partner sends phenotype results)

Mandatory	Name	Type	Description	Example
Y	Gene	String	Gene identifier	CYP2C19
Y	Value	String	Phenotype result	PM
Y	Guideline	String	Guideline used in translation	CPIC

5. **AllelePresence**

Mandatory	Name	Type	Description	Example
Y	Gene	String	Gene identifier	HLAA
Y	Allele	String	Allele identifier	3101
Y	Presence	String	Presence/Absence	Possible values are: Absence, Presence

6. **CopyNumber**

Mandatory	Name	Type	Description	Example
Y	Gene	String	Gene identifier	CYP2D6
Y	CopyNumber	String	Copy number value	3

7. SupplementaryResult

Mandatory	Name	Type	Description	Example
N	ResultType	String	Result description	Current possible values are: SangerSequencing, Long Range PCR (LRPCR)
N	Key	String	Identifier (such as an RSID or a Gene)	"rs1065852"
N	Value	String	Result	"A"

Appendix 1 – ULR Sample

```
{
  "Genotype": [
    {
      "RSID": "rs2231142",
      "Genotype": "G/G"
    },
    {
      "RSID": "rs12769205",
      "Genotype": "A/A"
    }
  ]
}
```

```
},  
  
{  
  "RSID": "rs1042713",  
  "Genotype": "G/G"  
},  
  
{  
  "RSID": "rs1800497",  
  "Genotype": "G/G"  
},  
  
{  
  "RSID": "rs28399504",  
  "Genotype": "A/A"  
},  
  
{  
  "RSID": "rs41291556",  
  "Genotype": "T/T"  
},  
  
{  
  "RSID": "rs4244285",  
  "Genotype": "G/G"  
},  
  
{  
  "RSID": "rs4986893",  
  "Genotype": "G/G"  
},  
  
{
```

```
"RSID": "rs72552267",  
  "Genotype": "G/G"  
},  
{  
  "RSID": "rs28371685",  
  "Genotype": "C/C"  
},  
{  
  "RSID": "rs1057910",  
  "Genotype": "A/A"  
},  
{  
  "RSID": "rs1799853",  
  "Genotype": "T/T"  
},  
{  
  "RSID": "rs1065852",  
  "Genotype": "A/G"  
  
},  
{  
  "RSID": "",  
  "Genotype": "-/AAGTGG"  
},  
{
```

```
"RSID": "rs28371706",  
  "Genotype": "G/G"  
},  
{  
  "RSID": "rs3918290",  
  "Genotype": "C/C"  
},  
{  
  "RSID": "rs35742686",  
  "Genotype": "T/T"  
},  
{  
  "RSID": "rs3892097",  
  "Genotype": "T/C"  
},  
{  
  "RSID": "rs67376798",  
  "Genotype": "T/T"  
},  
{  
  "RSID": "rs28399433",  
  "Genotype": "A/A"  
},  
{  
  "RSID": "rs1135840",  
  "Genotype": "G/C"
```

```
},  
  
{  
  "RSID": "rs59421388",  
  "Genotype": "C/C"  
},  
  
{  
  "RSID": "rs1799978",  
  "Genotype": "T/T"  
},  
  
{  
  "RSID": "rs1799963",  
  "Genotype": "G/G"  
},  
  
{  
  "RSID": "rs6025",  
  "Genotype": "C/C"  
},  
  
{  
  "RSID": "rs4713916",  
  "Genotype": "A/G"  
},  
  
{
```

```
"RSID": "rs5443",
```

```
"Genotype": "C/C"
},
{
  "RSID": "rs1954787",
  "Genotype": "C/T"
},
{
  "RSID": "rs7997012",
  "Genotype": "G/G"
},
{
  "RSID": "rs1414334",
  "Genotype": "C/C"
},
{
  "RSID": "rs1495509",
  "Genotype": "T/T"
},
{
  "RSID": "rs267606617",
  "Genotype": "A/A"
},
{
  "RSID": "rs116855232",
  "Genotype": "C/C"
},
}
```

```
{
  "RSID": "rs1799971",
  "Genotype": "G/G"
},
{
  "RSID": "rs4149056",
  "Genotype": "C/T"
},
{
  "RSID": "rs7903146",
  "Genotype": "C/C"
},
{
  "RSID": "rs1800629",
  "Genotype": "A/G"
},
{
  "RSID": "rs1800462",
  "Genotype": "C/C"
},
{
  "RSID": "rs1800460",
  "Genotype": "C/C"
},
{
  "RSID": "rs28399454",
```

"Genotype": "C/C"

},

{

"RSID": "rs9923231",

"Genotype": "G/A"

},

{

"RSID": "rs5030867",

"Genotype": "T/T"

},

{

"RSID": "rs1808682",

"Genotype": "G/G"

},

{

"RSID": "rs1801272",

"Genotype": "A/A"

},

{

"RSID": "rs5030656",

"Genotype": "CTT/-"

},

{

"RSID": "rs1142345",

```
"Genotype": "T/T"
},
{
  "RSID": "rs776746",
  "Genotype": "C/C"
},
{
  "RSID": "rs10264272",
  "Genotype": "C/C"
},
{
  "RSID": "rs41303343",
  "Genotype": "-/-"
},
{
  "RSID": "rs12979860",
  "Genotype": "C/C"
},
{
  "RSID": "rs28371725",
  "Genotype": "C/C"
},
{
  "RSID": "rs5030655",
  "Genotype": "A/A"
},
}
```

```
{  
  "RSID": "rs10306114",  
  "Genotype": "A/A"  
},  
{  
  "RSID": "rs489693",  
  "Genotype": "A/C"  
  
},  
{  
  "RSID": "rs28371686",  
  "Genotype": "C/C"  
},  
{  
  "RSID": "rs9332131",  
  "Genotype": "A/A"  
},  
{  
  "RSID": "rs12248560",  
  "Genotype": "T/T"  
},  
{  
  "RSID": "rs16947",  
  "Genotype": "G/G"  
},
```

```
{
  "RSID": "rs7900194",
  "Genotype": "G/G"
},
"StarAlleles": [
{
  "Gene": "CYP2D6",
  "Value": "(*1/*1)3N",
  "GeneticTestsDerivedFrom": [
    "CYP2D6_CopyNumber",
    "rs1065852",
    "rs28371706",
    "rs5030655",
    "rs3892097",
    "rs35742686",
    "rs5030656",
    "rs16947",
    "rs28371725",
    "rs1135840",
    "rs59421388",
    "rs5030867"
  ]
},
{
  "Gene": "CYP2C9",
```

```
"Value": "*1/*1",  
"GeneticTestsDerivedFrom": [  
  "rs1799853",  
  "rs1057910",  
  "rs28371686",  
  "rs9332131",  
  "rs7900194",  
  "rs28371685"  
]  
},  
{  
  "Gene": "CYP2C19",
```

```
"Value": "*2/*2",  
"GeneticTestsDerivedFrom": [  
  "rs4244285",  
  "rs4986893",  
  "rs28399504",  
  "rs72552267",  
  "rs41291556",  
  "rs12248560",  
  "rs12769205"  
]  
},  
{
```

```
"Gene": "TPMT",
"Value": "*1/*2",
"GeneticTestsDerivedFrom": [
  "rs1800462",
  "rs1800460",
  "rs1142345"
]
},
{
  "Gene": "SLCO1B1",
  "Value": "*1/*5",
  "GeneticTestsDerivedFrom": [
    "rs4149056"
  ]
},
{
  "Gene": "CYP2A6",
  "Value": "*4/*4",
  "GeneticTestsDerivedFrom": [
    "CYP2A6_CopyNumber",
    "rs1801272",
    "rs28399433",
    "rs28399454"
  ]
},
{
```

```
"Gene": "CYP3A5",
"Value": "*1/*1",
"GeneticTestsDerivedFrom": [
  "rs776746",
  "rs10264272",
  "rs41303343"
]
},
{
  "Gene": "DPYD",
  "Value": "*1/*1",
  "GeneticTestsDerivedFrom": [
    "rs3918290",
    "rs67376798"
  ]
}
],
```

```
"PhenoTypes": [
  {
    "Gene": "CYP2A6",
    "Guideline": "",
    "Value": "PM"
  },
  {
```

```
"Gene": "CYP2C19",  
"Guideline": "CPIC",  
"Value": "PM"  
},  
{  
"Gene": "CYP2C19",  
"Guideline": "DPWG",  
"Value": "PM"  
},  
{  
"Gene": "CYP2C9",  
"Guideline": "",  
"Value": "NM"  
},  
{  
"Gene": "CYP3A5",  
"Guideline": "",  
"Value": "NM"  
},  
{  
"Gene": "DPYD",  
"Guideline": "",  
"Value": "NM"  
},  
{  
"Gene": "SLCO1B1",
```

```
"Guideline": "",
  "Value": "DF"
},
{
  "Gene": "TPMT",
  "Guideline": "",
  "Value": "IM"
},
{
  "Gene": "CYP2D6",
  "Guideline": "",
  "Value": "UM"
},
{
  "Gene": "CYP2D6",
  "Guideline": "ActScore",
  "Value": "UM"
}
],
"AllelePresence": [
  {
    "Gene": "HLAA",

    "Allele": "3101",
    "Presence": "Absence"
```

```
},  
  
{  
  "Gene": "HLAB",  
  "Allele": "1502",  
  "Presence": "Presence"  
},  
  
{  
  "Gene": "HLAB",  
  "Allele": "5801",  
  "Presence": "Absence"  
},  
  
{  
  "Gene": "HLAB",  
  "Allele": "4403",  
  "Presence": "Presence"  
}  
],  
"CopyNumber": [  
  {  
    "Gene": "CYP2D6",  
    "CopyNumber": "3"  
  },  
  {  
    "Gene": "CYP2A6",  
    "CopyNumber": "2"  
  }  
]
```

```
],  
  "FurtherTests": [  
    {  
      "TestType": "LRPCR",  
      "RSID": "rs1065852",  
      "Genotype": "A"  
    }  
  ]  
}
```