

**Pre-build panels by default in Polypheme**

| Panel Analysis                 | Genes included                  |
|--------------------------------|---------------------------------|
| HLA Class I Classic            | HLA-A, HLA-B, HLA-C             |
| HLA Class II Classic short     | DRB1, DQB1                      |
| HLA_Class I and Class II short | HLA-A, HLA-B, HLA-C, DRB1, DQB1 |

**Other panels can be customized based on the following genes list (evolutive)**

| Locus        | Version   | Status               | Accuracy*                            | Comment                         | Publications  |
|--------------|-----------|----------------------|--------------------------------------|---------------------------------|---|
| <b>HLA-A</b> | IMGT 3.45 | Benchmarked          | >99.7% (on 1104 exomes at 4 digits)  | More than 3000 samples analyzed | <a href="#">Publication 1</a><br><a href="#">Publication 9</a>                                  |
| <b>HLA-B</b> | IMGT 3.45 | Benchmarked          | >99.6% (on 1104 exomes at 4 digits)  | More than 3000 samples analyzed | <a href="#">Publication 1</a><br><a href="#">Publication 9</a>                                  |
| <b>HLA-C</b> | IMGT 3.45 | Benchmarked          | >99.7% (on 1104 exomes at 4 digits)  | More than 3000 samples analyzed | <a href="#">Publication 1</a><br><a href="#">Publication 9</a>                                  |
| <b>DQB1</b>  | IMGT 3.45 | Benchmarked          | >99.5% (on 810 exomes at 4 digits)   | More than 3000 samples analyzed | <a href="#">Publication 1</a><br><a href="#">Publication 9</a>                                  |
| <b>DRB1</b>  | IMGT 3.45 | Benchmarked          | >99.7% (on 1104 exomes at 4 digits)  | More than 3000 samples analyzed | <a href="#">Publication 1</a><br><a href="#">Publication 9</a>                                  |
| <b>DRB3</b>  | IMGT 3.45 | Benchmarked**        | 100% (on 261 exomes at 4 digits)     | More than 3000 samples analyzed |   |
| <b>DRB4</b>  | IMGT 3.45 | Benchmarked**        | >99.2% (on 261 exomes at 4 digits)   | More than 3000 samples analyzed |   |
| <b>DRB5</b>  | IMGT 3.45 | Benchmarked**        | 100% (on 261 exomes at 4 digits)     | More than 3000 samples analyzed |   |
| <b>DQA1</b>  | IMGT 3.45 | Benchmarked          | 100 % ( on 294 exomes at 4 digits)   | More than 2500 samples analyzed |   |
| <b>HLA_F</b> | IMGT 3.45 | Benchmarked          | Not measured<br>(Manually validated) | More than 2500 samples analyzed | <a href="#">Publication 2</a><br><a href="#">Publication 3</a>                                  |
| <b>HLA-E</b> | IMGT 3.45 | Benchmarked          | Not measured<br>(Manually validated) | More than 2500 samples analyzed | <a href="#">Publication 2</a>   |
| <b>HLA-G</b> | IMGT 3.45 | Benchmarked          | Not measured<br>(Manually validated) | More than 2500 samples analyzed | <a href="#">Publication 2</a><br><a href="#">Publication 4</a><br><a href="#">Publication 5</a> |
| <b>HLA-H</b> | IMGT 3.45 | Benchmarked          | Not measured<br>(Manually validated) | More than 2500 samples analyzed | <a href="#">Publication 2</a><br><a href="#">Publication 7</a><br><a href="#">Publication 8</a> |
| <b>HLA-J</b> | IMGT 3.45 | Benchmarked          | Not measured<br>(Manually validated) | Manually curated                | <a href="#">Publication 6</a>   |
| <b>DPA1</b>  | IMGT 3.45 | Benchmarked          | 100 % (100 exomes at 4 digits)       |                                 |   |
| <b>DPB1</b>  | IMGT 3.45 | Benchmarked          | >99.1% (100 exomes at 4 digits)      |                                 |   |
| <b>DRA</b>   | IMGT 3.45 | Calibrated           |                                      |                                 |   |
| <b>DMA</b>   | IMGT 3.45 | Calibrated           |                                      |                                 |   |
| <b>DMB</b>   | IMGT 3.45 | Calibrated           |                                      |                                 |   |
| <b>DOA</b>   | IMGT 3.45 | Calibrated           |                                      |                                 |   |
| <b>DOB</b>   | IMGT 3.45 | Calibrated           |                                      |                                 |   |
| <b>DPA2</b>  | IMGT 3.45 | Calibrated           |                                      |                                 |   |
| <b>DPB2</b>  | IMGT 3.45 | Calibrated           |                                      |                                 |   |
| <b>MICA</b>  | IMGT 3.45 | Calibration on going |                                      |                                 |   |

|              |           |                         |  |  |  |
|--------------|-----------|-------------------------|--|--|--|
| <b>MICB</b>  | IMGT 3.45 | Calibration on going    |  |  |  |
| <b>DRB2</b>  |           | Implementation On going |  |  |  |
| <b>DRB6</b>  |           | Implementation On going |  |  |  |
| <b>DRB7</b>  |           | Implementation On going |  |  |  |
| <b>DRB8</b>  |           | Implementation On going |  |  |  |
| <b>DRB9</b>  |           | Implementation On going |  |  |  |
| <b>HFE</b>   |           | Implementation On going |  |  |  |
| <b>HLA-K</b> |           | Implementation On going |  |  |  |
| <b>HLA-L</b> |           | Implementation On going |  |  |  |
| <b>HLA-N</b> |           | Implementation On going |  |  |  |
| <b>HLA-P</b> |           | Implementation On going |  |  |  |
| <b>HLA-S</b> |           | Implementation On going |  |  |  |
| <b>HLA-T</b> |           | Implementation On going |  |  |  |
| <b>HLA-U</b> |           | Implementation On going |  |  |  |
| <b>HLA-V</b> |           | Implementation On going |  |  |  |
| <b>HLA-W</b> |           | Implementation On going |  |  |  |
| <b>HLA-Y</b> |           | Implementation On going |  |  |  |
| <b>TAP1</b>  |           | Implementation On going |  |  |  |
| <b>TAP2</b>  |           | Implementation On going |  |  |  |

\*Accuracy: Accuracy is measured on the basis of an error in the Typing compared to a good Typing. An inaccurate typing due to lack of data that includes the correct solution is not considered an inaccurate typing.

\*\* Not currently able to distinguish homo and hemizygote samples

### Others genes up coming

- Blood group genes (9 genes already available publication submitted)
- KIR genes
- Oncology target (BRCA / confidential target)
- Some rare disease genes

\* **Benchmarked** means that the gene precision was estimated based either on already typed sample or by manual curation

\* **Calibrated** means that we analyze many sample and manually check results to verify if typing is consistent

\* **Implemented** means that polypheme is able to provide typing results (technically operational) but no test are already done to calibrate the software.