Supplementary table 1: Test results of all tumor samples included in the study

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| Patient ID | Origin of tumor sample | Anatomical location of tumor sample | DNA seq method | DNA seq result | Tumor cell content (%) for Idylla | Idylla result | Tumor cell content (%) for ddPCRa | ddPCR (V600E) result | VE1 IHC (V600E) result | Concordance between all tests? |
| 1 | SN | Right axilla | Sanger | V600E | 2 | V600E/V600E2/V600D | 70 | V600E | V600E | yes |
| 2 | LN | Right axilla | Sanger | WT | 5 | neg | 50 | neg | neg | yes |
| 3 | PT | Right eye | Sanger | WT | 40 | neg | 95 | neg | neg | yes |
| 4 | LN | Left upper leg | HRM | WT | 5 | V600E/V600E2/V600D | 15 | V600E | V600E | nob |
| 5 | DM | Skin right abdomen | HRM/Sanger | V600K | 15 | V600K/V600R/V600M | 90 | neg | neg | yes |
| 6 | LN | Left groin | HRM | WT | 90 | negc | 95 | neg | neg | yes |
| 7 | PT | Skin scalp | Sanger | WT | 25 | neg | 10-60 | neg | neg | yes |
| 8 | LN | Left groin | HRM/Sanger | V600E | 70 | V600E/V600E2/V600D | 95 | V600E | V600E | yes |
| 9 | LN | Left axilla | HRM/Sanger | V600K | 80 | V600K/V600R/V600M | 60 | neg | neg | yes |
| 10 | DM | Skin scalp | HRM | WT | 60 | neg | 70 | neg | neg | yes |
| 11 | LN | Left axilla | HRM/Sanger | V600E | 90 | V600E/V600E2/V600D | 90 | V600E | V600E | yes |
| 12 | LN | Right axilla | HRM/Sanger | WT | 80 | neg | 80-90 | neg | neg | yes |
| 13 | PT | Right lower back | HRM | WT | 40 | neg | 80 | neg | neg | yes |
| 14 | LN | Left axilla | HRM/Sanger | V600E | 70 | V600E/V600E2/V600D | 70 | V600E | V600E | yes |
| 15 | PT | Left neck | HRM | WT | 80 | neg | 80 | neg | neg | yes |
| 16 | LN | Left axilla | HRM/Sanger | V600E | 80 | V600E/V600E2/V600D | 80 | V600E | V600E | yes |
| 17 | LN | Right axilla | HRM/Sanger | V600E | 95 | V600E/V600E2/V600D | 80 | V600E | V600E | yes |
| 18 | LN | Left groin | HRM/Sanger | V600E | 5 | V600E/V600E2/V600D | 80 | V600E | V600E | yes |
| 19 | LN | Right groin | HRM/Sanger | V600E | 15 | V600E/V600E2/V600D | >50 | V600E | V600E | yes |
| 20 | DM | Left lung | Sanger | WT | 80 | neg | 60 | neg | neg | yes |
| 21 | LN | Right axilla | HRM/Sanger | V600E | 90 | V600E/V600E2/V600D | 80 | V600E | V600E | yes |
| 22 | LN | Left neck | HRM/Sanger | V600R | 80 | V600K/V600R/V600M | 80 | neg | neg | yes |
| 23 | LN | Left axilla | HRM/Sanger | V600E | 60 | V600E/V600E2/V600D | 80 | V600E | neg | no |
| 24d | DM | Skin right upper leg | HRM/Sanger | V600E | 70 | V600E/V600E2/V600D | 90 | V600E | V600E | yes |
| 25 | DM | Skin left lower leg | HRM | WT | 70 | neg | 60 | neg | neg | yes |
| 26 | LN | Right groin | HRM | V600E | 40 | V600E/V600E2/V600D | 50 | V600E | V600E | yes |
| 27 | PT | Skin right lower leg | HRM/Sanger | WT | 60 | neg | 80 | neg | neg | yes |
| 28 | LN | Right axilla | HRM/Sanger | V600E | 90 | V600E/V600E2/V600D | 80 | V600E | V600E | yes |
| 29 | PT | Left cavum nasi | HRM | WT | NA | NT | 80 | neg | neg | yes |
| 30 | PT | Gluteal | HRM/Sanger | V600E | 70 | V600E/V600E2/V600D | 80 | V600E | V600E | yes |
| 31 | PT | Left upper arm | Sanger | WT | 80 | neg | 80 | neg | NT | yes |
| 32 | DM | Subcutaneous right axilla | HRM | WT | 95 | neg | 70 | neg | neg | yes |
| 33d | DM | Skin left elbow | HRM | WT | 80 | neg | 90 | neg | neg | yes |
| 34 | LN | Left axilla | HRM | WT | 80 | neg | 50 | neg | neg | yes |
| 35 | DM | Brain fourth ventricle | HRM | WT | NA | NT | 90 | neg | neg | yes |
| 36 | DM | Skin left lower leg | HRM/Sanger | WT | 30 | neg | 60 | neg | neg | yes |
| 37 | DM | Skin left mamma | Sanger | V600E | 90 | V600E/V600E2/V600D | 90 | V600E | V600E | yes |
| 38 | LN | Right axilla | HRM/Sanger | V600E | 15 | V600E/V600E2/V600D | 70 | V600E | V600E | yes |
| 39 | DM | Skin right back | HRM/Sanger | V600E | 80 | V600E/V600E2/V600D | 80 | V600E | NT | yes |

Abbreviations: SN, sentinel node; LN, lymph node; PT, primary tumor; DM, distant metastasis; NA*,* not assessed; NT, not tested

1. Macrodisecttion was performed to enrich tumor cell content;
2. NGS confirmed results of Idylla, ddPCR and VE1 IHC, and HRM result was regarded as false-negative
3. Idylla provided an invalid result on a first run
4. Idylla was performed on a different tissue block from the same tumor sample