**Supplementary Table 1: Description of patients and samples analysed in this study for *TERT* promoter and *BRAF* mutations**

|  |  |  |
| --- | --- | --- |
|  | **n (*TERT*)** | **n (*BRAF*)** |
| **Number of patients with analysed primary tumours** | 79 | 85a |
| **Number of patients with analysed recurrences** | 7 | 7 |
| **Number of patients with analysed locoregional metastases** | 32 | 32 |
| **Number of patients with analysed distant metastases** | 6 | 6 |
| **Number of patients with an analysed primary tumour and at least one analysed metastasis (locoregional or distant)** | 27b | 34a,b |

aSeven patients had the *BRAF* status previously evaluated in the primary tumour with cobas® 4800, at HDS. Also, *BRAF* status was not determine in a non-metastatic case, and therefore the difference between the number of known *BRAF* and *TERT* statuses is six for primary tumours but seven for paired samples.

bNo patient had simultaneously locoregional and visceral metastases.

**Supplementary Table 2: Frequency of *TERTp*+ and *BRAF*+ mutations, by sample and mutation type**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Gene** | **Type of mutation** | **Primary tumours** | **Recurrences** | **Locoregional metastases** | **Distant metastases** |
| ***TERTmut*** | Total | n=79  20/79  (25%) | n=7  3/7  (43%) | n=36b  9/36  (25%) | n=6  3/6  (50%) |
| -124C>T | n=5  (25%) | n=1  (33%) | 0 | n=1  (33%) |
| -146C>T | n=13  (65%) | n=2  (67%) | n=8  (89%) | n=2  (67%) |
| -124/125CC>TT | n=1  (5%) | 0 | n=1  (11%) | 0 |
| -138/139CC>TT | n=1  (5%) | 0 | 0 | 0 |
| ***BRAFmut*** | Total | n=84  24/84  (28%) | n=7  3/7  (43%) | n=36b  10/36  (28%) | n=6  2/6  (33%) |
| V600a | n=4  (17%) | 0 | 0 | 0 |
| V600E | n=15  (62%) | n=3  (100%) | n=8  (80%) | n=1  (50%) |
| V600K | n=5  (21%) | 0 | n=2  (20%) | n=1  (50%) |

aPatients that had only the *BRAF* status previously evaluated with cobas® 4800, at HDS.

bSome patients had simultaneously nodal and in-transit metastases.

**Supplementary Table 3: Clinicopathological features and their relationship with *BRAF*+ mutational status**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Clinicopathological features** | **All melanomas** | ***BRAF***  **WT** | ***BRAF+* mutated** | **p-value** |
| Number of cases (%) | 90 | 63 (70) | 27 (30) | - |
| Mean age (±SD) | 62 (±17.1) | 66 (±17.3) | 53 (±13.2) | **<0.01** |
| Sex [n (%)]  Female  Male | 53 (59)  37 (41) | 36 (57)  27 (43) | 17 (63)  10 (37) | 0.64 |
| Location [n (%)]  Head and Neck  Trunk  Members | 14 (16)  38 (43)  36 (41) | 10 (17)  24 (39)  27 (44) | 4 (15)  14 (52)  9 (33) | 0.55 |
| Histological Subtype [n (%)]  SSM  Nodular  LMM  *In situ* | 34 (44)  31 (40)  7 (9)  5 (7) | 21 (40)  19 (37)  7 (13)  5 (10) | 13 (52)  12 (48)  0 (0)  0 (0) | 0.07 |
| Mean thickness [mm (range)] | 3.80 (0.23-21) | 3.94 (0.23-19) | 3.63 (0.50-21) | 0.78 |
| Breslow index [n (%)]  ≤1mm  >1mm | 28 (37)  48 (63) | 23 (45)  28 (55) | 5 (20)  20 (80) | 0.06 |
| Epidermal ulceration [n (%)]  Absent  Present | 53 (66)  27 (34) | 40 (71)  16 (29) | 13 (54)  11 (46) | 0.20 |
| Mitotic rate [n (%)]  <1/mm2  ≥1/mm2 | 28 (36)  50 (64) | 23 (43)  31 (57) | 5 (21)  19 (79) | 0.08 |
| Growth phase [n (%)]  Radial  Vertical | 17 (26)  49 (74) | 14 (33)  29 (67) | 3 (13)  20 (87) | 0.14 |
| AJCC stage [n (%)]  ≤II  >III | 43 (48)  47 (52) | 36 (57)  27 (43) | 7 (26)  20 (74) | **0.01** |
| *TERTp+* mutational status [n (%)]  WT  Mut | 63 (70)  27 (30) | 47 (75)  16 (25) | 13 (48)  14 (52) | **0.03** |