## Supplementary table 1
Patients cohort analysed

| VARIABLES             | BCC  | cSCC |
|-----------------------|------|------|
| **Age**               |      |      |
| <70 years             |  7   |   2  |
| ≥ 70                  | 19   | 11   |
| **Sex**               |      |      |
| Female                |  6   |   7  |
| Male                  | 20   |  6   |
| **Tumour site**       |      |      |
| Trunk                 | 15   |   1  |
| Lower limb            |  2   |   2  |
| Upper limb            |  2   |   1  |
| Head and neck         |  7   |   9  |
| **Tumour size (wide, cm)** |    |      |
| size ≤ 1              | -    |  4   |
| 1 < size <2           | -    |  5   |
| size ≥2               | -    |  4   |

BCC: basal cell carcinomas; cSCCs: cutaneous squamous cell carcinomas; -: not measured.
| TMA position | Age | Sex | Pathology diagnosis | Grade | Brgf H-score | Actfia H-score | Loricin H-score |
|--------------|-----|-----|---------------------|-------|--------------|---------------|----------------|
| A1           | 73  | Male| Squamous cell carcinoma of right leg | 1     | 5            | 70            | 20             |
| A2           | 54  | Male| Squamous cell carcinoma of chest wall | 1     | 0            | 0             | 0              |
| A3           | 67  | Male| Squamous cell carcinoma of neck | 1     | 0            | 0             | 0              |
| A4           | 58  | Male| Squamous cell carcinoma of back | 1     | 40           | 0             | 30             |
| A5           | 90  | Female| Squamous cell carcinoma of face | 1     | 15           | 0             | 0              |
| A6           | 84  | Female| Squamous cell carcinoma of right face | 1     | 0            | 0             | 0              |
| A7           | 76  | Male| Squamous cell carcinoma of right arm | 1     | 10           | 0             | 0              |
| A8           | 73  | Male| Squamous cell carcinoma of left leg | 1     | 160          | 90            | 60             |
| A9           | 74  | Male| Squamous cell carcinoma of neck | 1     | 15           | 15            | 10             |
| A10          | 72  | Male| Squamous cell carcinoma of left preauricular | 1     | 40           | 10            | 80             |
| B1           | 64  | Male| Squamous cell carcinoma of right cheek | 1     | 40           | 50            | 80             |
| B2           | 79  | Female| Squamous cell carcinoma of thigh | 2     | 30           | 100           | 80             |
| B3           | 56  | Female| Squamous cell carcinoma of left lower limb | 1     | 30           | 0             | 40             |
| B4           | 34  | Male| Squamous cell carcinoma of scalp | 1     | 40           | 0             | 10             |
| B5           | 91  | Male| Squamous cell carcinoma of tip | 1     | 0            | 100           | 80             |
| B6           | 56  | Male| Squamous cell carcinoma of left back of foot | 1     | 60           | 100           | 90             |
| B7           | 86  | Male| Squamous cell carcinoma of right forehead | 1     | 70           | 90            | 60             |
| B8           | 66  | Male| Squamous cell carcinoma of orbit of cavity | 1     | 100          | 90            | 290            |
| B9           | 56  | Male| Squamous cell carcinoma of forehead | 1     | 0            | 90            | 80             |
| B10          | 70  | Female| Squamous cell carcinoma of right face | 1     | 15           | 30            | 0              |
| B11          | 80  | Female| Squamous cell carcinoma of right face (sparse) | 1     | 0            | 90            | 90             |
| C1           | 37  | Male| Squamous cell carcinoma of forehead | 1     | 0            | 90            | 80             |
| C2           | 66  | Male| Squamous cell carcinoma of left lower limb | 1     | 0            | 30            | 0              |
| C3           | 66  | Male| Squamous cell carcinoma of left back of foot | 2     | 50           | 50            | 70             |
| C4           | 55  | Female| Squamous cell carcinoma of left heel | 2     | 50           | 50            | 70             |
| C5           | 66  | Male| Squamous cell carcinoma of left preauricular | 1     | 0            | 200           | 30             |
| C6           | 57  | Male| Squamous cell carcinoma of right shoulder | 1     | 40           | 100           | 100            |
| C7           | 60  | Male| Squamous cell carcinoma of face | 1     | 100          | 80            | 100            |
| C8           | 66  | Male| Squamous cell carcinoma of right hip | 2     | 40           | 100           | 30             |
| C9           | 66  | Male| Squamous cell carcinoma of right heel | 2     | 40           | 80            | 0              |
| C10          | 66  | Male| Squamous cell carcinoma of left preauricular | 1     | 0            | 200           | 30             |
| C11          | 66  | Male| Squamous cell carcinoma of neck | 2     | 100          | 100           | 0              |
| C12          | 75  | Male| Squamous cell carcinoma of left thigh (sparsely) | 2     | 0            | 0             | 0              |
| C13          | 75  | Male| Squamous cell carcinoma of right thigh | 2     | 0            | 0             | 0              |
| C14          | 48  | Male| Squamous cell carcinoma of basal cell carcinoma of scalp | 3     | 0            | 100           | 0              |
| C15          | 72  | Male| Squamous cell carcinoma | 3     | 0            | 0             | 0              |
| C16          | 70  | Male| Squamous cell carcinoma of scalp | 3     | 0            | 0             | 0              |
| C17          | 64  | Male| Basal cell carcinoma of scalp | -     | 5            | 0             | 0              |
| C18          | 62  | Male| Basal cell carcinoma of scalp | -     | 80           | 0             | 0              |
| C19          | 57  | Male| Basal cell carcinoma of scalp | -     | 0            | 0             | 0              |
| C20          | 48  | Male| Basal cell carcinoma | -     | 0            | 0             | 0              |
| C21          | 74  | Female| Basal cell carcinoma of right cheek | -     | 0            | 0             | 0              |
| C22          | 74  | Male| Basal cell carcinoma of lumbar/sacral area | -     | 100          | 100           | 0              |
| C23          | 64  | Male| Basal cell carcinoma of scalp | -     | 100          | 0             | 0              |
| C24          | 50  | Male| Basal cell carcinoma of scalp | -     | 100          | 0             | 0              |
| C25          | 38  | Male| Basal cell carcinoma of right forehead | -     | 80           | 70            | 0              |
| C26          | 63  | Female| Basal cell carcinoma of right neck | -     | 80           | 100           | 20             |
| C27          | 62  | Female| Basal cell carcinoma of right face | -     | 100          | 80            | 10             |
| C28          | 70  | Female| Squamous cell carcinoma of scalp | -     | 100          | 50            | 0              |
| C29          | 53  | Male| Malignant melanoma of right side of foot | -     | 100          | 200           | 200            |
| C30          | 55  | Male| Malignant melanoma of right fore arm | -     | 70           | 0             | 0              |
| C31          | 76  | Male| Malignant melanoma of right medial malleolus | -     | 100          | 200           | 200            |
| C32          | 78  | Male| Malignant melanoma of left cheek | -     | 0            | 90            | 0              |
| C33          | 66  | Male| Malignant melanoma of right sole of foot (sparsely) | -     | 100          | 200           | 10             |
| C34          | 41  | Female| Basal cell carcinoma of scalp | -     | 0            | 60            | 10             |
| C35          | 74  | Male| Malignant melanoma of left foot | -     | 0            | 30            | 0              |
| C36          | 42  | Male| Malignant melanoma of left heel | -     | 200          | 160           | 0              |
| C37          | 60  | Male| Malignant melanoma of right buttock | -     | 0            | 100           | 0              |
| C38          | 46  | Male| Malignant melanoma of clavus (sparsely) | -     | 0            | 40            | 0              |
| C39          | 55  | Male| Malignant melanoma of sole of foot | -     | 50           | 60            | 0              |
| C40          | 52  | Male| Malignant melanoma of right heel | -     | 0            | 100           | 0              |
| C41          | 53  | Female| Adjacent normal skin tissue of breast | -     | 0            | 40            | 200            |
| C42          | 73  | Male| Adjacent normal skin tissue of left heel | -     | 40           | 40            | 200            |
| C43          | 75  | Male| Adjacent normal skin tissue of left foot | -     | 100          | 90            | 200            |
| C44          | 42  | Female| Adjacent normal skin tissue of breast | -     | 70           | 90            | 300            |
| C45          | 50  | Female| Adjacent normal skin tissue of breast | -     | 60           | 90            | 200            |
| C46          | 49  | Female| Adjacent normal skin tissue of breast | -     | 100          | 40            | 200            |
| C47          | 49  | Female| Adjacent normal skin tissue of breast | -     | 0            | 100           | 200            |
| C48          | 56  | Female| Adjacent normal skin tissue of breast | -     | 30           | 100           | 200            |
| C49          | 37  | Female| Adjacent normal skin tissue of left chest wall | -     | 20           | 100           | 100            |
| C50          | 62  | Female| Adjacent normal skin tissue of breast | -     | 100          | 90            | 100            |
| Primers | Sequence 5'-3' direction |
|---------|--------------------------|
| TBP F   | CAAACCCAGAATTGTTCCTCTTTATT |
| TBP R   | GTCGTCTTCTGTAATCCCTTTTAG  |
| ACTL6A F | TTTTGGTGACAGACGCTAA      |
| ACTL6A R | ACACTGCCATA      |
| BRG1 F   | AAAGGTTTGAGTGCTGGTGTC   |
| BRG1 R   | AGAGAGCCACGTGATGAGGAAGG |
| UC291 F   | GCGTCAATGTTCTCTGTAATTC |
| UC291 R   | CTGTTCACGCGCTGGCCGAG   |
| LORICRIN F | CTCTGTCTGCCGGCTACTCTG |
| LORICRIN R | CACGAGTGCTGAGTGACCTG |
| LCE1C F   | GAATCCAGCAGGCAAACCTG    |
| LCE1C R   | TGGACCTGAGCCTCTCAG      |
Supplementary Figure 1. Brg1 and Actl6a expression in melanoma. a) H&E staining and IHC analysis of Actl6a and Brg1 expression in melanoma (n=11). b) Histological-score (H-score) of Brg1 and Actl6a. The p-value was obtained by Student's T-test; ns= not significant.