

**Supplementary Table 4: Most frequent mutations per race**

| Caucasian      |                       |                     |           | Asian           |                       |                    |        | BoAA           |                      |                     |          |
|----------------|-----------------------|---------------------|-----------|-----------------|-----------------------|--------------------|--------|----------------|----------------------|---------------------|----------|
| Gene           | Type                  | HGVS                | n (%)     | Gene            | Type                  | HGVS               | n (%)  | Gene           | Type                 | HGVS                | n (%)    |
| <i>PTEN</i>    | Missense              | p.Arg130Gly         | 36 (9.94) | <i>PTEN</i>     | Missense              | p.Arg130Gln        | 6 (30) | <i>KRAS</i>    | Missense             | p.Gly12Asp          | 8 (7.55) |
| <i>SETD1B</i>  | Frame-shift deletion  | p.His8ThrfsTer27    | 35 (9.67) | <i>PTEN</i>     | Nonsense              | p.Arg233Ter        | 4 (20) | <i>RPL22</i>   | Frame-shift deletion | p.Lys15ArgfsTer5    | 7 (6.60) |
| <i>RPL22</i>   | Frame-shift deletion  | p.Lys15ArgfsTer5    | 34 (9.39) | <i>JAK1</i>     | Frame-shift deletion  | p.Lys860AsnfsTer16 | 4 (20) | <i>JAK1</i>    | Frame-shift deletion | p.Lys860AsnfsTer16  | 7 (6.60) |
| <i>RNF43</i>   | Frame-shift deletion  | p.Gly659ValfsTer41  | 30 (8.29) | <i>ARID1A</i>   | Nonsense              | p.Arg1989Ter       | 3 (15) | <i>SETD1B</i>  | Frame-shift deletion | p.His8ThrfsTer27    | 6 (5.66) |
| <i>JAK1</i>    | Frame-shift deletion  | p.Lys860AsnfsTer16  | 27 (7.46) | <i>RPL22</i>    | Frame-shift deletion  | p.Lys15ArgfsTer5   | 3 (15) | <i>RNF43</i>   | Frame-shift deletion | p.Gly659ValfsTer41  | 6 (5.66) |
| <i>PIK3CA</i>  | Missense              | p.Arg88Gln          | 24 (6.63) | <i>PQLC2L</i>   | Missense              | p.Asp78Asn         | 3 (15) | <i>TP53</i>    | Missense             | p.Arg273His         | 6 (5.66) |
| <i>PIK3CA</i>  | Missense              | p.His1047Arg        | 23 (6.35) | <i>LTV1</i>     | Nonsense              | p.Arg377Ter        | 3 (15) | <i>ACVR2A</i>  | Frame-shift deletion | p.Lys437ArgfsTer5   | 6 (5.66) |
| <i>DOCK3</i>   | Frame-shift deletion  | p.Pro1852GlnfsTer45 | 22 (6.08) | <i>ABCB5</i>    | Frame-shift insertion | p.Ile217ThrfsTer3  | 3 (15) | <i>PIK3CA</i>  | Missense             | p.Arg88Gln          | 6 (5.66) |
| <i>FGFR2</i>   | Missense              | p.Ser252Trp         | 21 (5.80) | <i>SETX</i>     | Missense              | p.Arg1606Gln       | 3 (15) | <i>BCOR</i>    | Missense             | p.Asn1459Ser        | 6 (5.66) |
| <i>KRAS</i>    | Missense              | p.Gly12Asp          | 20 (5.52) | <i>SFXN3</i>    | Missense              | p.Arg38Gln         | 2 (10) | <i>SPOP</i>    | Missense             | p.Met117Val         | 5 (4.72) |
| <i>PTEN</i>    | Missense              | p.Arg130Gln         | 19 (5.25) | <i>CFAP43</i>   | Missense              | p.Arg1047Gln       | 2 (10) | <i>SMAD7</i>   | Frame-shift deletion | p.Pro209LeufsTer115 | 5 (4.72) |
| <i>PTEN</i>    | Nonsense              | p.Arg233Ter         | 18 (4.97) | <i>CFAP43</i>   | Missense              | p.Ser473Leu        | 2 (10) | <i>SCAF4</i>   | Frame-shift deletion | p.Pro250HisfsTer96  | 5 (4.72) |
| <i>PPP2R1A</i> | Missense              | p.Pro179Arg         | 18 (4.97) | <i>SHOC2</i>    | Missense              | p.Arg200His        | 2 (10) | <i>ESRP1</i>   | Frame-shift deletion | p.Asn512ThrfsTer2   | 5 (4.72) |
| <i>BCOR</i>    | Missense              | p.Asn1459Ser        | 18 (4.97) | <i>GPAM</i>     | Missense              | p.Val112Ile        | 2 (10) | <i>PAX2</i>    | Frame-shift deletion | p.Arg403GlyfsTer37  | 4 (3.77) |
| <i>KRAS</i>    | Missense              | p.Gly12Val          | 17 (4.70) | <i>FAM188A</i>  | Missense              | p.Ser69Leu         | 2 (10) | <i>PTEN</i>    | Missense             | p.Arg130Gln         | 4 (3.77) |
| <i>OR14K1</i>  | Missense              | p.Arg14Ser          | 17 (4.70) | <i>HACD1</i>    | Missense              | p.Leu252Ile        | 2 (10) | <i>PTEN</i>    | Missense             | p.Arg142Trp         | 4 (3.77) |
| <i>CTCF</i>    | Frame-shift insertion | p.Thr204AsnfsTer26  | 16 (4.42) | <i>ARHGAP21</i> | Missense              | p.Gly1547Val       | 2 (10) | <i>PTEN</i>    | Nonsense             | p.Arg233Ter         | 4 (3.77) |
| <i>ZBTB20</i>  | Frame-shift deletion  | p.Pro692LeufsTer43  | 15 (4.14) | <i>ARHGAP21</i> | Frame-shift insertion | p.Gly1547Ter       | 2 (10) | <i>TRIM51</i>  | Frame-shift deletion | p.Met144CysfsTer15  | 4 (3.77) |
| <i>SLC3A2</i>  | Frame-shift deletion  | p.Lys300ArgfsTer31  | 14 (3.87) | <i>CCDC7</i>    | Nonsense              | p.Glu60Ter         | 2 (10) | <i>INPPL1</i>  | Frame-shift deletion | p.Arg1156GlyfsTer46 | 4 (3.77) |
| <i>ARID1A</i>  | Nonsense              | p.Arg1989Ter        | 14        | <i>CREM</i>     | Nonsense              | p.Glu80Ter         | 2      | <i>PLEKHA6</i> | Frame-shift deletion | p.Val328TyrfsTer172 | 4        |

|                 |                      |                    |              |                 |          |              |           |                |          |              |             |
|-----------------|----------------------|--------------------|--------------|-----------------|----------|--------------|-----------|----------------|----------|--------------|-------------|
|                 |                      |                    | (3.87)       |                 |          |              | (10)      |                |          |              | (3.77)      |
| <i>UPF3A</i>    | Frame-shift deletion | p.Glu267ArgfsTer13 | 14<br>(3.87) | <i>ZNF485</i>   | Missense | p.Arg206Ile  | 2<br>(10) | <i>POLE</i>    | Missense | p.Pro286Arg  | 4<br>(3.77) |
| <i>ACVR2A</i>   | Frame-shift deletion | p.Lys437ArgfsTer5  | 14<br>(3.87) | <i>CTGLF11P</i> | Missense | p.His132Arg  | 2<br>(10) | <i>TP53</i>    | Missense | p.Arg273Cys  | 4<br>(3.77) |
| <i>CTGLF11P</i> | Missense             | p.His132Arg        | 13<br>(3.59) | <i>ANK3</i>     | Nonsense | p.Arg1176Ter | 2<br>(10) | <i>PPP2R1A</i> | Missense | p.Pro179Arg  | 4<br>(3.77) |
| <i>CAMSAP2</i>  | Frame-shift deletion | p.Met1437Ter       | 13<br>(3.59) | <i>RTKN2</i>    | Nonsense | p.Arg33Ter   | 2<br>(10) | <i>PIK3CA</i>  | Missense | p.Gly118Asp  | 4<br>(3.77) |
| <i>ELMSAN1</i>  | Frame-shift deletion | p.Asn314ThrfsTer4  | 13<br>(3.59) | <i>USP54</i>    | Missense | p.Arg657Gln  | 2<br>(10) | <i>PIK3CA</i>  | Missense | p.His1047Arg | 4<br>(3.77) |