**Supplementary Table 1. Somatic coding mutations identified from whole genome sequencing**

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| --- | --- | --- | --- | --- | --- |
| **Gene\_name** | **Protein\_change** | **VAF** | **Alt\_depth** | **Ref\_depth** | **COSMIC** |
| HRNR 0.105 | p.T616A | 0.105 | 4 | 51 |  |
| OR2T3 | p.S247F | 0.171 | 8 | 53 |  |
| PLXDC2 | p.V396I | 0.167 | 4 | 22 |  |
| FOLH1 | p.R190W | 0.333 | 8 | 20 |  |
| IPO8 | p.M488fs | 0.125 | 3 | 28 |  |
| KRR1 | p.R134Q | 0.188 | 3 | 17 |  |
| KRTAP4-11 | p.L161V | 0.116 | 9 | 49 |  |
| TTYH1 | p.E440fs | 0.130 | 6 | 31 |  |
| TTYH1 | p.440\_441insH | 0.130 | 6 | 30 |  |
| KIF5C | p.K151fs | 0.200 | 3 | 16 |  |
| LY75-CD302 | p.T1393I | 0.188 | 3 | 18 |  |
| BARD1 | p.P24S | 0.087 | 4 | 59 |  |
| KRTAP10-12 | p.P92S | 0.133 | 5 | 38 |  |
| NFXL1 | p.P246L | 0.176 | 3 | 20 |  |
| PLA2G7 | p.R92H | 0.188 | 3 | 18 |  |
| NAT2 | p.R268K | 0.200 | 7 | 28 | p.R268K |
| AQP7 | p.Y64F | 0.068 | 7 | 88 |  |
| KIAA1984 | p.N421T | 0.125 | 4 | 42 |  |