**Supplementary Table 5. Detailed summary of *NOTCH* gene family mutations**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **Gene** | **Exon** | **Transcript ID** | **Chrom** | **Start** | **Ref** | **Alt** | **AA change** | **Type\*** | **PROVEAN PREDICTION\*** (cutoff=-2.5) | **SIFT PREDICTION\*** (cutoff=0.05) |
| LCNEC-26 | NOTCH4 | exon 23 | NM\_004557 | 6 | 32168761 | C | T | D1388N | Missense | Deleterious | Damaging |
| LCNEC-29 | NOTCH1 | exon 25 | NM\_017617 | 9 | 139400022 | CG | C | P1442fs | Frameshift |   |   |
| LCNEC-29 | NOTCH3 | exon 26 | NM\_000435 | 19 | 15281631 | AC | A | V1581fs | Frameshift |   |   |
| LCNEC-30 | NOTCH1 | exon 19 | NM\_017617 | 9 | 139403438 | G | A | Q1019\* | Nonsense |   |   |
| LCNEC-31 | NOTCH4 | exon 4 | NM\_004557 | 6 | 32189005 | TG | T | P183fs | Frameshift |   |   |
| LCNEC-34 | NOTCH4 | exon 21 | NM\_017617 | 6 | 32170307 | GG | TT | L1101M | Missense | Neutral | Damaging |
| LCNEC-34 | NOTCH1 | exon 27 | NM\_004557 | 9 | 139397654 | T | C | Y1716C | Missense | Deleterious | Damaging |
| LCNEC-669 | NOTCH4 | exon 22 | NM\_004557 | 6 | 32169201 | C | T | G1278S | Missense | Neutral | Damaging |
| LCNEC-637 | NOTCH1 | exon 20 | NM\_017617 | 9 | 139402781 | C | A | Q1076H | Missense | Deleterious | Damaging |
| LCNEC-42 | NOTCH3 | exon 13 | NM\_000435 | 19 | 15296311 | C | T | p.D711N | Missense | Deleterious | Damaging |
| LCNEC-44 | NOTCH1 | exon 23 | NM\_017617 | 9 | 139401297 | C | A | p.G1258C | Missense | Deleterious | Damaging |
| LCNEC-44 | NOTCH4 | exon 4 | NM\_004557 | 6 | 32188939 | G | T | p.C205\* | Nonsense |   |   |
| LCNEC-47 | NOTCH3 | exon 17 | NM\_000435 | 19 | 15292546 | C | A | p.G878V | Missense | Deleterious | Damaging |
| LCNEC-51 | NOTCH1 | exon 28 | NM\_017617 | 9 | 139396758 | G | A | p.R1784W | Missense | Deleterious | Damaging |
| LCNEC-51 | NOTCH2 | exon 31 | NM\_024408 | 1 | 120462096 | C | A | p.D1874Y | Missense | Deleterious | Damaging |
| LCNEC-51 | NOTCH3 | exon 33 | NM\_000435 | 19 | 15272212 | C | A | p.G2076V | Missense | Deleterious | Tolerated |
| LCNEC-57 | NOTCH4 | exon 18 | NM\_004557 | 6 | 32178537 | G | T | p.L953I | Missense | Neutral | Tolerated |
| LCNEC-60 | NOTCH1 | exon 8 | NM\_017617 | 9 | 139412332 | C | G | p.C438S | Missense | Deleterious | Damaging |
| LCNEC-61 | NOTCH4 | exon 23 | NM\_004557 | 6 | 32168745 | C | A | p.G1393V | Missense | Neutral | Tolerated |

\* A total of 17 of 19 *NOTCH* family gene mutations were protein truncating (frameshift, nonsense) mutations [n=5] or missense mutations predicted to be deleterious by either PROVEAN (<http://provean.jcvi.org/>) or SIFT (<http://sift.jcvi.org/>) [n=12].