## Supplementary material 3:

A-mutation in the stem part of the hairpin $B$-mutation in the loop part of the hairpin

```
A 28875: G
28876: C
28877: A 28881
28878: G
28879: T
28880: AGGGGAA
... |||-||| C
28894: TCCTCTT
28895:G
28896: C
28897:T
28898: A
28899:G
```

B

| 28869 : | C |  |
| :---: | :---: | :---: |
| 28870: | A | 28881 |
| 28871: | G | / |
| 28872: | G | $1$ |
| 28873: | C | AG |
| 28874 : | AGCAGT | G |
| -•• | \| |-||| |  |
| 28891: | TCTTCA | G |
| 28892: | C | AG |
| 28893: | C |  |
| 28894: | T |  |
| 28895 : | G |  |
| 28896: | C |  |

