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SUPPLEMENTARY MATERIAL OPEN ACCESS

# MiR-214-3p Regulates Apoptosis of Ameloblasts under Excessive Fluoride *via* PI3K/AKT Signaling Pathway

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**Table S1. Cell viability after treatment with different concentrations of NaF (%).**

| Time | Blank Group | 0.4 mmoL/L | 0.8 mmoL/L | 1.6 mmoL/L | 3.2 mmoL/L | 6.4 mmoL/L |
|---|---|---|---|---|---|---|
| 24 h | 100 | 91.60 ± 0.33 | 88.26 ± 1.01 | 57.97 ± 0.63 | 39.02 ± 0.36 | 21.56 ± 1.15 |
| 48 h | 100 | 87.73 ± 0.92 | 76.16 ± 0.57 | 37.61 ± 0.35 | 26.67 ± 0.59 | 12.62 ± 0.33 |
| 72 h | 100 | 79.11 ± 0.73 | 56.21 ± 0.94 | 28.56 ± 0.42 | 12.44 ± 1.06 | 3.32 ± 0.35 |

**Table S2. Influences of different concentrations of NaF on apoptotic proteins.**

| Apoptosis-related Proteins | Blank Group | 0.4 mmoL/L | 0.8 mmoL/L | 1.6 mmoL/L | 3.2 mmoL/L | 6.4 mmoL/L |
|---|---|---|---|---|---|---|
| Caspase 3 | 0.42 ± 0.04 | 0.45 ± 0.04 | 0.51 ± 0.02 | 0.62 ± 0.04 | 0.73 ± 0.09 | 0.85 ± 0.10 |
| Bax | 3.74 ± 0.45 | 4.21 ± 0.29 | 5.37 ± 0.40 | 6.16 ± 0.21 | 6.40 ± 0.38 | 7.80 ± 0.24 |
| Bcl-2 | 2.83 ± 0.09 | 2.46 ± 0.13 | 2.55 ± 0.15 | 2.52 ± 0.27 | 2.14 ± 0.21 | 2.06 ± 0.14 |
| Bax/Bcl-2 | 1.32 ± 0.15 | 1.71 ± 0.11 | 2.10 ± 0.11 | 2.46 ± 0.24 | 3.00 ± 0.15 | 3.83 ± 0.33 |

**Table S3. Statistical result of sequencing data.**

| Sample | Raw Reads | Clean Reads | Percentage of Clean Reads (%) |
|---|---|---|---|
| C-1 | 24,417,752 | 20,759,412 | 85.02 |
| C-2 | 25,143,022 | 21,284,681 | 84.65 |
| C-3 | 25,152,901 | 21,394,616 | 85.06 |
| T1-1 | 24,202,232 | 21,389,076 | 88.38 |
| T1-2 | 23,614,695 | 21,754,713 | 92.12 |
| T1-3 | 24,997,385 | 21,949,984 | 87.81 |
| T2-1 | 24,025,453 | 21,058,801 | 87.65 |

| Sample | Raw Reads | Clean Reads | Percentage of Clean Reads (%) |
|---|---|---|---|
| T2-2 | 24,335,049 | 21,641,727 | 88.93 |
| T2-3 | 23,090,840 | 22,090,808 | 95.67 |

**Note:** C (1-3) are three replicates of the control group, T1 (1-3) are three replicates of the 1.6 mmol/L NaF group and T2 (1-3) are three replicates of the 3.2 mmol/L NaF group.

### Table S4. Statistical result of miRNA relative expression levels.

| miRNAs | Blank Group | 1.6 mmoL/L | 3.2 mmoL/L |
|---|---|---|---|
| miR-3110-5p | 1.06 ± 0.02 | 2.35 ± 0.09 | 3.06 ± 0.18 |
| miR-324-5p | 1.02 ± 0.03 | 2.63 ± 0.32 | 2.61 ± 0.25 |
| miR-21a-3p | 1.01 ± 0.01 | 1.65 ± 0.28 | 1.60 ± 0.28 |
| miR-214-3p | 1.01 ± 0.01 | 0.19 ± 0.07 | 0.36 ± 0.07 |
| miR-210-5p | 1.02 ± 0.02 | 0.16 ± 0.08 | 0.26 ± 0.06 |
| miR-574-5p | 1.01 ± 0.01 | 0.09 ± 0.04 | 0.15 ± 0.06 |

### Table S5. Statistical result of relative expression of pathway proteins.

| Proteins | Blank Group | NaF Group | NaF+miR-214-3p Mimic Group | NaF+miR-214-3p Mimic+LY294002 Group |
|---|---|---|---|---|
| PI3K | 0.29±0.02 | 0.44±0.10 | 0.13±0.05 | 0.31±0.08 |
| p-PI3K | 0.45±0.07 | 0.25±0.06 | 0.40±0.03 | 0.18±0.07 |
| AKT | 0.31±0.03 | 0.65±0.08 | 0.37±0.05 | 0.52±0.07 |
| P-AKT | 0.44±0.09 | 0.25±0.06 | 0.38±0.06 | 0.25±0.05 |
| Bcl-2 | 2.51±0.14 | 1.99±0.20 | 2.51±0.25 | 1.51±0.25 |
| Bax | 1.44±0.24 | 2.43±0.21 | 1.56±0.17 | 2.14±0.20 |