

## Materials and methods

*Statistical analysis.* Receiver operating characteristic (ROC) curves were used to evaluate the diagnostic values of microRNA (miR)-130a, miR-25 and miR-191\* in patients with non-small cell lung cancer (NSCLC). The  $\chi^2$  test was used to analyze the different frequencies of microRNAs in distinguishing between adenocarcinomas and squamous cell carcinomas, as well as between patients with or without radiotherapy.

## Results

*Relative expression of serum miR-130a, miR-25 and miR-191\* in patients with NSCLC compared with that in healthy controls and its diagnostic value for lung cancer.* The RT-qPCR results

demonstrated that the expression levels of miR-130a, miR-25 and miR-191\* in the serum of patients with NSCLC were higher compared with those of healthy control subjects ( $P < 0.001$ ; Fig. S2A-a, B-a and C-a). ROC curve analysis was used to evaluate the efficacy of miR-130a, miR-25 and miR-191\* in the diagnosis of lung cancer (Fig. S2A-b, B-b and C-b). The areas under the curves of miR-130a, miR-25 and miR-191\* were 0.817 (95% CI, 0.745-0.889), 0.774 (95% CI, 0.694-0.853) and 0.817 (95% CI, 0.745-0.889), respectively. The best cut-off values were 1.4343, 1.2844 and 1.3551, the sensitivity values were 66.67, 66.67 and 59.52%, and the specificity values were 90.48, 90.48 and 95.24%, respectively (Fig. S2A-b, B-b and C-b).

Figure S1. Relative expression levels of serum miR-130a, miR-25 and miR-191\* between patients with non-small cell lung cancer with different clinical features. Relative expression levels of (A) miR-130a, (B) miR-25 and (C) miR-191\* in the serum of patients  $\geq 60$  vs.  $< 60$  years old, with radiotherapy vs. without radiotherapy, with adenocarcinoma vs. squamous carcinoma type, and death vs. survivors at the time of the last follow-up. The data were presented as a dot plot of the raw data, overlaid by a box and whisker plot (median, first and third percentiles, range). miR, microRNA.

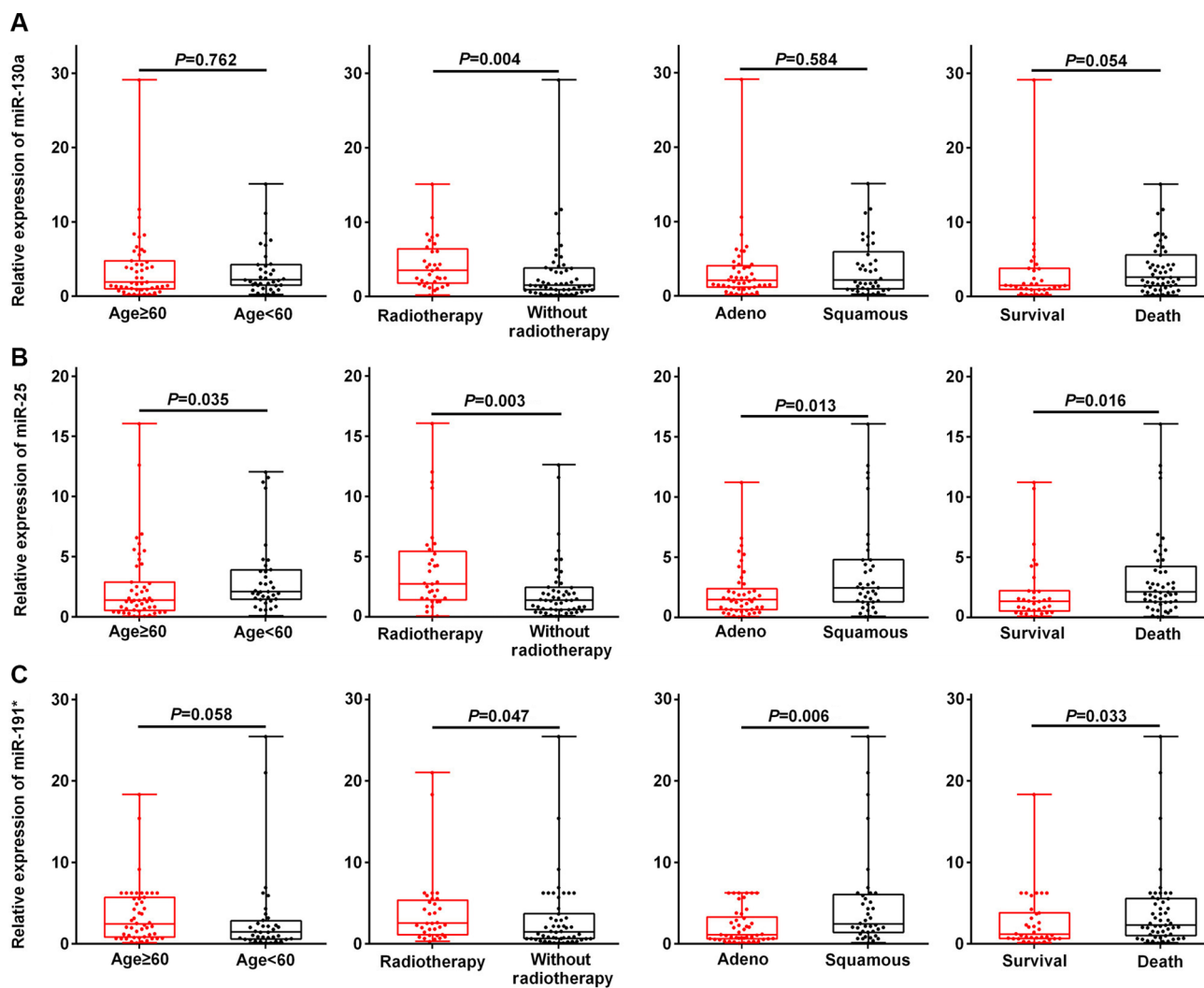


Figure S2. Relative expression levels of serum miR-130a, miR-25 and miR-191\* in patients with non-small cell lung cancer versus HC, and their diagnostic value for lung cancer. The data was presented as a dot plot of the raw data, overlaid by a box and whisker plot (median, first and third percentiles, range). (A-a) miR-130a expression in the serum of patients versus HC and (A-b) ROC curve for miR-130a expression in predicting lung cancer. (B-a) miR-25 expression in the serum of patients versus HC and (B-b) ROC curve for miR-25 expression in predicting lung cancer. (C-a) miR-191\* expression in the serum of patients versus HC and (C-b) ROC curve for miR-191\* expression in predicting lung cancer. ROC, receiver operating characteristic; HC, healthy control; miR, microRNA.

