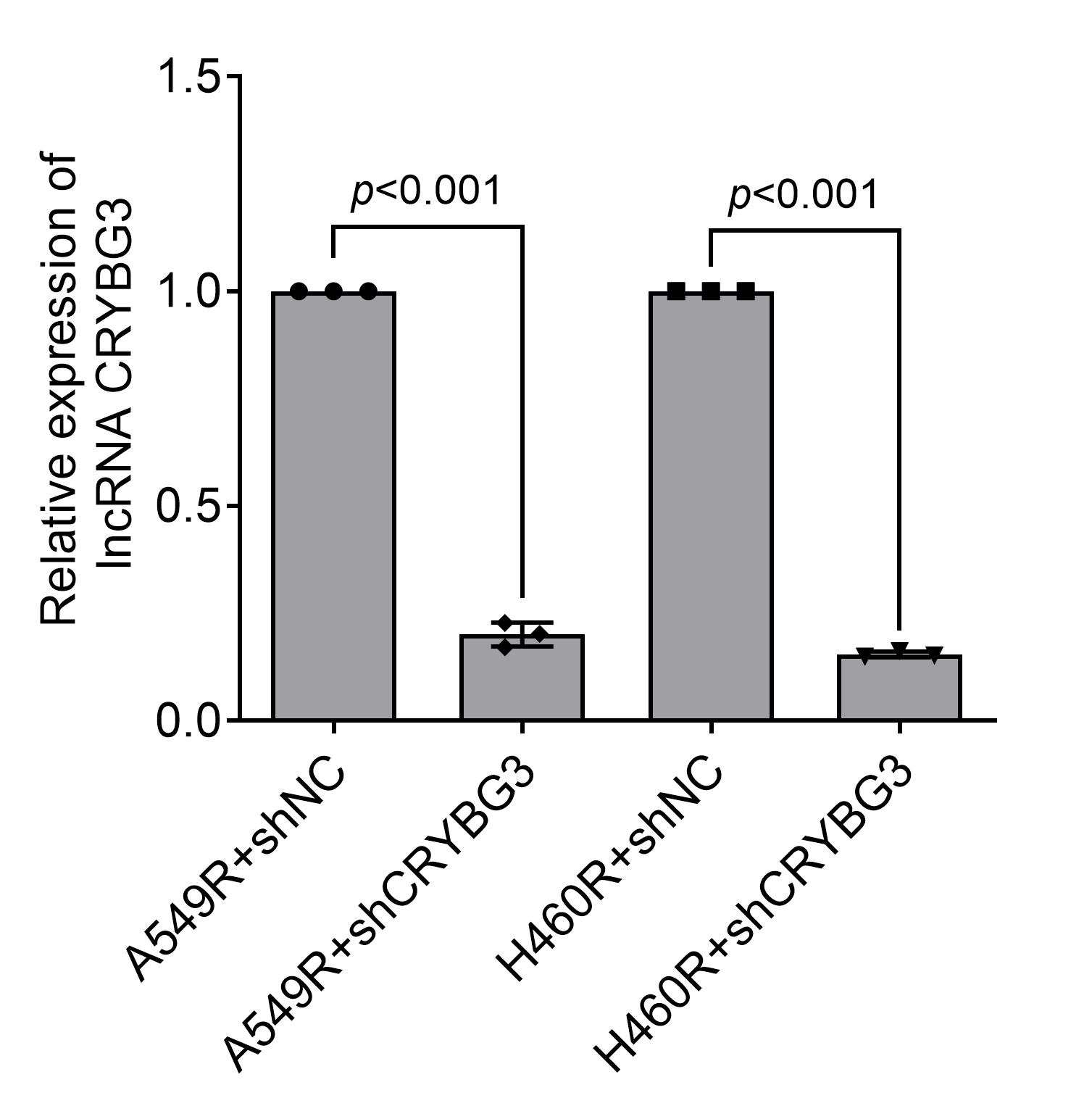


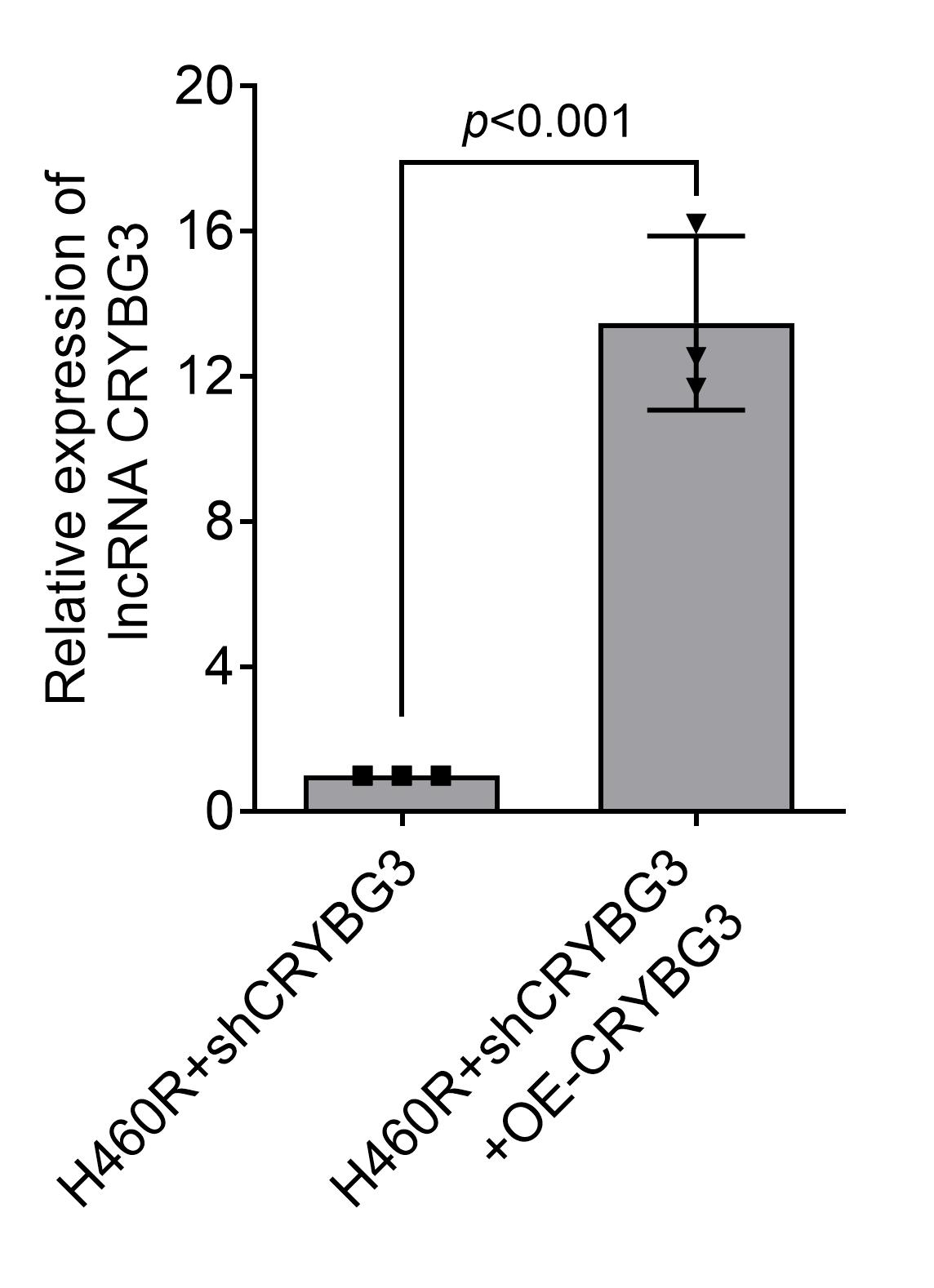
**Figure S1:** Representative colony formation images.



**Figure S2:** qRT-PCRs were performed to evaluate the expression levels of lncRNA CRYBG3 in cells transfected with either shRNA targeting CRYBG3 (shCRYBG3) or a control shRNA (shNC). Data are represented as means ± SD (n=3). p-values were calculated by unpaired Student’s *t*-test.



**Figure S3:** Mitochondrial ROS (mtROS) were measured in radioresistant cells (A549R and H460R) transfected with shCRYBG3 or shNC at 2 h after exposure to 4 Gy of X-rays. Data are represented as means ± SD (n=5). *p*-values were calculated by unpaired Student’s *t*-test.



**Figure S4:** Adenovirus particles containing the lncRNA CRYBG3 (OE-CRYBG3) were transfected into H460R-shCRYBG3 cells to restore CRYBG3 expression, which was subsequently evaluated by qRT-PCR analysis 24 hours post-transfection. Data are represented as means ± SD (n=3). *p*-values were calculated by unpaired Student’s *t*-test.

**Table S1**. Radiobiological parameters in different groups (mean±SD).

|  |  |  |  |
| --- | --- | --- | --- |
| Cell lines | D0 | Dq | SF2 |
| A549 | 1.950±0.072 | 1.606±0.314 | 0.659±0.050 |
| A549R | 2.406±0.094 | 2.055±0.225 | 0.743±0.029 |
| *p* value | 0.003 | 0.114 | 0.064 |
| H460 | 2.088±0.039 | 1.370±0.082 | 0.628±0.014 |
| H460R | 2.505±0.098 | 2.074±0.21 | 0.742±0.024 |
| *p* value | 0.002 | 0.006 | 0.002 |

D0 is mean lethal dose, which is the dose required to hit each cell once. Dq is quasi‐threshold dose, which refers to the ability to repair sublethal injury. SF2 is the survival fraction at 2 Gy. *p*<0.05 indicates statistical significance.