

Fig. S1 Expression of CBR1 and its prognostic values.

The differences in expression of CBR1 were analyzed based on sample types (a), individual cancer stages (b) and nodal metastasis status (c) using mRNA profiles from the TCGA database. The difference of (d) OS and (e) PPS among patients with low and high CBR1 expression. The difference of (d) OS and (e) PPS among chemotherapy received patients with low and high CBR1 expression. (h) Statistical analysis of the EdU positive cells in sh-CBR1-1 or sh-CBR1-2 infected cells. Data were expressed as mean \pm SD. One-way ANOVA with Dunnett's multiple comparisons test. ANOVA: analysis of variance; SD: standard deviation. CBR1: Carbonyl reductase 1; TCGA: The Cancer Genome Atlas; OS: overall Survival; PFS: Progression-Free Survival; sh-CBR1: shRNA CRB1; EdU: 5-Ethynyl-2'-deoxyuridine.

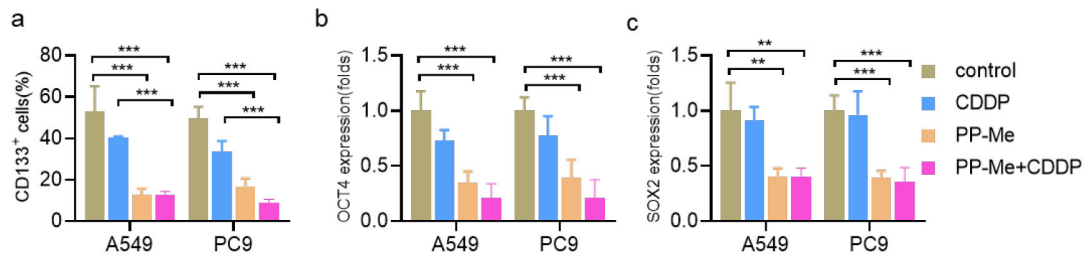


Fig. S2 PP-Me inhibited the stemness property of NSCLC cells.

Statistical analysis of the CD133-positive cells (a), OCT4 (b), and SOX2 (c) expression in cells treated with CDDP, PP-Me and the combined therapy of PP-Me and CDDP. Data were expressed as mean \pm SD. One-way ANOVA with Dunnett's multiple comparisons test. ** $P < 0.01$, *** $P < 0.001$. ANOVA: analysis of variance; SD: standard deviation. CDDP: Cisplatin; NSCLC: Non-Small Cell Lung Cancer; PP-Me: Hydroxy-PP-Me; OCT4: Octamer-binding transcription factor; SOX2: SRY (sex determining region Y)-box 2.

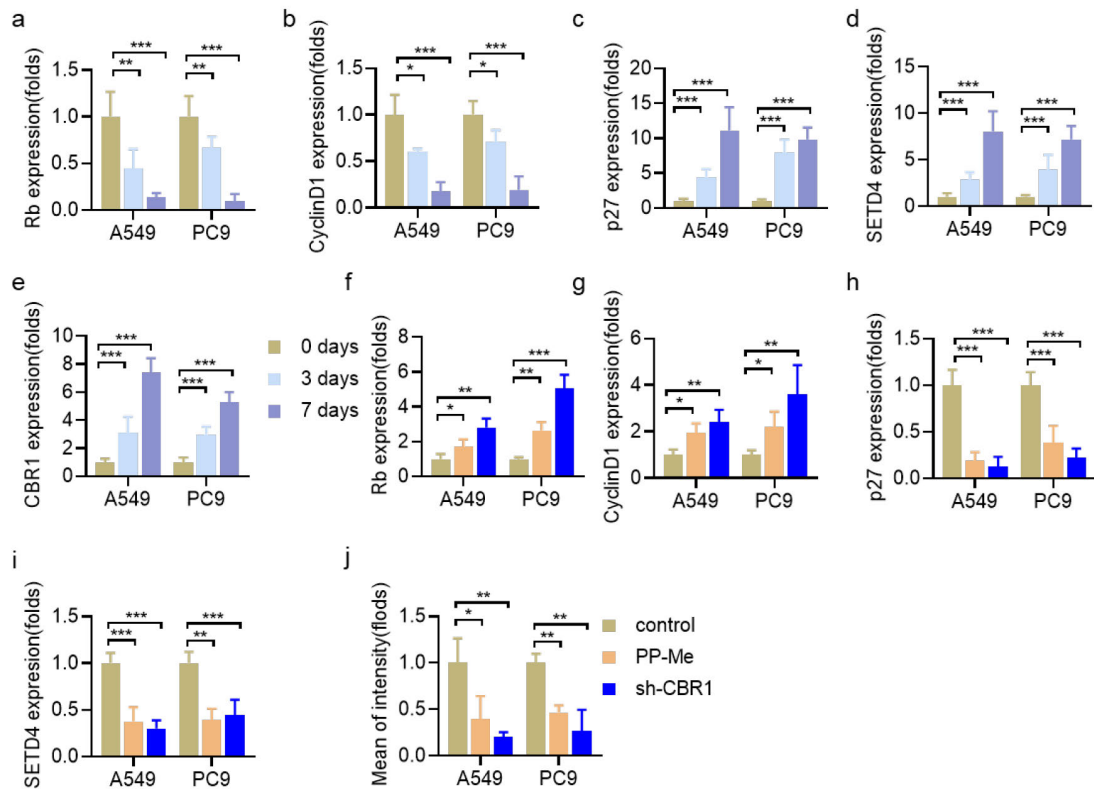


Fig. S3 CBR1 mediated the quiescence property of NSCLC cells.

Statistical analysis of the expression of pRb (a), cyclinD1 (b), p27 (c), SETD4 (d), and CBR1 (e) in non-quiescent and quiescent cells. Statistical analysis of the expression of pRb (f), cyclinD1 (g), p27 (h), and SETD4 (i) in sh-CBR1-infected or PP-Me-treated quiescent cells. (j) Statistical analysis of the expression of SETD4 in sh-CBR1-infected and PP-Me-treated quiescent cells measured by immunofluorescence. Data were expressed as mean \pm SD. One-way ANOVA with Dunnett's multiple comparisons test. * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$. ANOVA: analysis of variance; SD: standard deviation. NSCLC: Non-Small Cell Lung Cancer; CBR1: Carbonyl reductase 1; sh-CBR1: shRNA CBR1; PP-Me: Hydroxy-PP-Me; pRb: phosphorylated retinoblastoma; p27: cyclin-dependent kinase inhibitor 1B; SETD4: SET domain-containing protein 4.

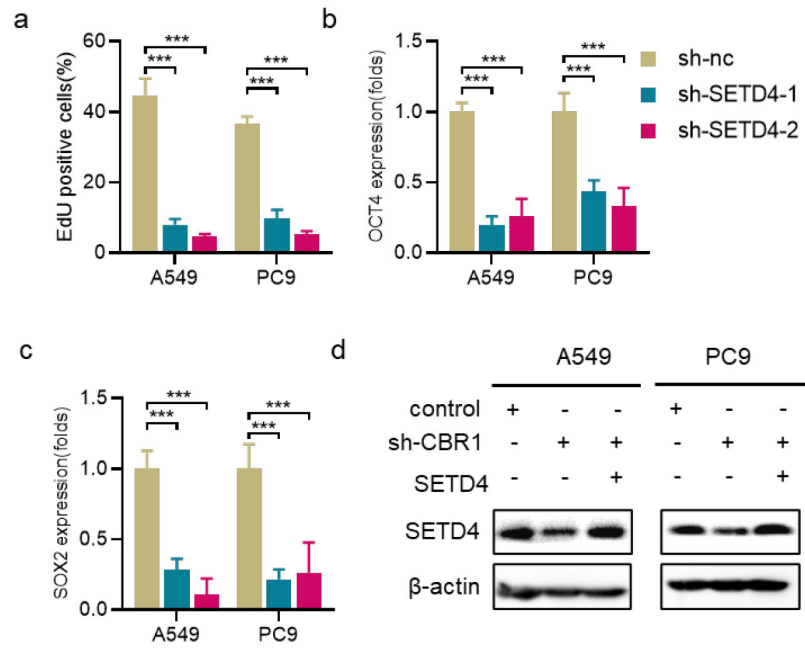


Fig. S4 Oncogenic effects of SETD4.

Statistical analysis of the EdU-positive cells (a) and the expression of OCT4 (b) and SOX2 (c) in sh-SETD4-1 and sh-SETD4-2 infected cells. (d) Western blot verified the expression of SETD4 in sh-CBR1 infected cells with SETD4 overexpressed plasma. Data were expressed as mean±SD. One-way ANOVA with Dunnett's multiple comparisons test. *** $P < 0.001$. ANOVA: analysis of variance; SD: standard deviation. SETD4: SET domain-containing protein 4; EdU: 5-Ethynyl-2'-deoxyuridine; CBR1: Carbonyl reductase 1; sh-CBR1: shRNA CRB1; OCT4: Octamer-binding transcription factor; SOX2: SRY (sex determining region Y)-box 2.