

P005 SUMO modification modulates the transrepression potential of PLZF

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Small ubiquitin-like modifier (SUMO) modification has recently been shown to associate with transcriptional regulation and nuclear body formation. Here, we show that transcription factor PLZF can be SUMO modified at lysine residue 242, 387 and 396. Converting these three SUMO acceptor Lys to Arg 3KR does not significantly affect PLZF nuclear body formation, which is distinct from the scenario of PML sumoylation in PML nuclear body formation. Furthermore, PLZF-3KR markedly reduced the transcriptional repression activity, correlating with a loss of PLZF-mediated growth suppression. These results reveal an important role of SUMO modification in PLZF-mediated transcriptional repression.