Suppl. Data Set 6. XRCC1-containing foci are PML-like nuclear bodies



Supplementary Figure 6. Presence of SP100 and PML proteins in XRCC1-containing nuclear bodies
A. XRCC1 (IF, red), SP100 (IF, green) and replication regions (EdU, white) in cell nuclei.
B. XRCC1 (IF, red) PML (IF, green) and replication (EdU, white) in cell nuclei.
Scale bars: 5 μm, ROI: 3 x 3 μm.

XRCC1 foci described here also contain other proteins, including

molecular markers of PML bodies, SP100 and PML protein, as shown in Fig. 4 and Suppl. Fig. 6. Immunofluorescent staining of XRCC1 and these two proteins confirmed that some XRCC1 foci colocalize with the nuclear structures rich in either SP100 or PML protein that are most likely canonical PML nuclear bodies. Such XRCC1-containing nuclear bodies are always located in the regions adjacent to replication sites (Suppl. Fig. 6). They also contain other proteins, such as PARP1, Lig III α and, surprisingly, ORC5 (Fig. 4). The latter can have many functions, including the role of a gene silencer in yeast and parasites (1–6).

References

- 1. Dillin, A. and Rine, J. (1997) Separable functions of ORC5 in replication initiation and silencing in Saccharomyces cerevisiae. *Genetics* 147, 1053–1062
- 2. Fox, C. a, Loo, S., and Dillin, A. (1995) The origin recognition complex has essenual functions in transcripuonal silencing and chromosomal replication. *Genes Dev.* **9**, 911–924
- 3. Shore, D. (2001) Transcriptional silencing: Replication redux. Curr. Biol. 11, 816–819
- 4. Suter, B., Tong, A., Chang, M., Yu, L., Brown, G. W., Boone, C., and Rine, J. (2004) The origin recognition complex links
- replication, sister chromatid cohesion and transcriptional silencing in Saccharomyces cerevisiae. *Genetics* 167, 579–591
 Zou, Y. and Bi, X. (2008) Positive roles of SAS2 in DNA replication and transcriptional silencing in yeast. *Nucleic Acids Res.* 36, 5189–5200
- 6. Ozaydin, B. and Rine, J. (2010) Expanded roles of the origin recognition complex in the architecture and function of silenced chromatin in Saccharomyces cerevisiae. *Mol. Cell. Biol.* **30**, 626–639