Supplementary Fig. 1. A comparison of the quality of dorsal skin in plg+/+, plg+/− and plg−/− mice at different days after irradiation. (a) Skin scores for plg+/+, plg+/− and plg−/− mice at different days after irradiation. (b) Statistical analysis of skin scores between plg+/+, plg+/− and plg−/− mice at different days after irradiation. * p<0.05, ns= not significant.
Supplementary Fig. 2. The thickness of epidermis increases significantly after irradiation in \( plg^{++/} \) mice, but not in \( plg^{-/-} \) mice. Representative photographs of H&E stained skin sections from \( plg^{++/} \) and \( plg^{-/-} \) mice at different days after irradiation. Magnification 100x.
Supplementary Fig. 3. The number of vessels increases significantly after irradiation in plg+/+ mice, but not in plg-/- mice. Representative photographs of CD31 (red) and DAPI (blue) staining of skin sections from plg+/+ and plg-/- mice at different days after irradiation. Magnification 100x.
Supplementary Fig. 4. The number of proliferating cells increases significantly after irradiation in \textit{plg}^{+/+} mice, but not in \textit{plg}^{-/-} mice. Representative photographs of Ki67 (red) and DAPI (blue) staining of skin sections from \textit{plg}^{+/+} and \textit{plg}^{-/-} mice at different days after irradiation. Magnification 200x.
Supplementary Fig. 5. Apoptosis in the skin of plg+/+ and plg-/− mice after irradiation. Representative photographs of TUNEL (green) and DAPI (blue) staining of skin sections from plg+/+ and plg-/− mice at different days after irradiation. Magnification 200x.
Supplementary Fig. 6. Reactive oxygen species (ROS) in the skin of \( plg^{+/+} \) and \( plg^{-/-} \) mice after irradiation.

Representative photographs of 8-Oxo-2'-deoxyguanosine (brown) and Hematoxylin (purple) staining of skin sections from \( plg^{+/+} \) and \( plg^{-/-} \) mice at different days after irradiation. Magnification 200x.
Supplementary Fig. 7. Large numbers of neutrophils and NETS infiltrate irradiated skin in *plg*+/+ mice, but not in *plg*−/− mice. Representative photographs of immunostaining of neutrophils (red), DAPI (blue), and NETs (citrullinated histon 3, green) on skin sections from *plg*+/+ and *plg*−/− mice at different days after irradiation. Magnification 100x.
Supplementary Fig. 8. Macrophage accumulation in the skin of plg+/+ and plg-/− mice after irradiation. Representative photographs of (CD68) (red) and DAPI (blue) staining of skin sections from plg+/+ and plg-/− mice at different days after irradiation. Magnification 100x.
Supplementary Fig. 9. Activation (phosphorylation) of Smad2 in the skin of plg+/+ and plg-/- mice after irradiation. (a) Representative photograph of western blot of skin samples from plg+/+ and plg-/- mice at different days after irradiation. β-actin was used as an internal control. HT-1080 cells induced by hTGFβ were used as control for P-Smad2 antibody. (b) Quantification of P-Smad2 from the band intensity (n = 4 per time point).
Supplementary Fig. 10. Fibrin accumulation in the skin of plg+/+ and plg-/- mice after irradiation.
Representative photographs of fibrin (orange) and DAPI (blue) staining of skin sections from plg+/+ and plg-/- mice at different days after irradiation. Magnification 100x.
Supplementary Fig. 11. Plasminogen activation is necessary to induce inflammation after irradiation. Skin samples from WT, tPA-/uPA-/ and plg-/- mice were taken at different times after irradiation. Extracts were prepared and analyzed by ELISA (n ≥ 4 per time point). (a) IL-6 levels, (b) TNF-α levels, (c) IL1-β levels and (d) IL-10 levels in the skin after irradiation.
Supplementary Fig. 12. TXA suppresses the accumulation of pro-inflammatory markers in the skin after irradiation. Skin samples from plg+/- and plg-/- mice and plg+/- mice treated with TXA (n ≥ 4) were taken at different times after irradiation and extracts were prepared and analyzed by ELISA (n ≥ 4 per time point). (a) IL-6 levels, (b) TNF-α levels, (c) IL1-β levels and (d) IL-10 levels in the skin after irradiation.
Supplementary Table 1. Statistical analysis of skin scores in irradiated mice treated with TXA (Figure 6b and 6d). (a) Statistical analysis of skin scores between $plg^{+/+}$ and $plg^{+/+}$ treated with TXA. (b) Statistical analysis of skin scores between $plg^{+/-}$ and $plg^{+/-}$ treated with TXA. * p<0.05. ns= not significant.

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