**Fig. S1.** Transmission electron microscopy of strains Ant21 T and Ant22. Cells were grown on R2A at 20ºC for 5 days.

**Fig. S2.** Representative survival plot for strains Ant21 T (●) and Ant22 (▲) following exposure to gamma radiation. Survival rates of *D. radiodurans* R1 T (■) and *E. coli* K12 (◆) are also shown. The survival rate after gamma radiation was measured with the early stationary phase (~10^7 CFU/ml) cells in TGY broth. Each increment on the y-axis represents a tenfold reduction in viability.

**Fig. S3.** Representative survival plot for strains Ant21 T (●) and Ant22 (▲) following exposure to UVC. The survival rates of *D. radiodurans* R1 T (■) and *E. coli* K12 (◆) are also shown. The survival rate after UVC radiation was estimated with the early stationary phase (~10^7 CFU/ml) cells in R2A. Each augmentation on the y-axis showed a tenfold reduction in survival rate.
**Fig. S4.** Maximum-parsimony tree based on 16S rRNA gene sequences showing the phylogenetic relationship between strains Ant21\(^T\), Ant22, and other related species.

*Truepera radiovictrix* RQ-24\(^T\) (DQ022096) and *Thermus aquaticus* DSM 625\(^T\) (L09663) were used as the outgroup. Scale bar, 50 substitutions per position. Numbers at the nodes indicate the bootstrap values (greater than 70%) expressed as a percentage of 1000 replicates.
**Fig. S5.** Maximum-likelihood tree based on 16S rRNA gene sequences showing the phylogenetic relationship between strains Ant21\(^T\), Ant22, and other related species. *Truepera radiovictrix* RQ-24\(^T\) (DQ022096) and *Thermus aquaticus* DSM 625\(^T\) (L09663) were used as the outgroup. Scale bar, 0.02 substitutions per position. Numbers at the nodes indicate the bootstrap values (greater than 70%) expressed as a percentage of 1000 replicates.
**Fig. S6.** Two-dimensional thin-layer chromatography of polar lipids of strain Ant21⁷.

The TLC plates are visualized with 5% ethanolic molybdatophosphoric acid (for total lipids). Abbreviations: PGL, unknown phosphoglycolipid; GL, unknown glycolipids; APL, unknown phosphaaminolipids.