Author Correction to: Association of Bacteroides acidifaciens relative abundance with high-fibre diet-associated radiosensitisation

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Author Correction to: BMC Biol 18, 102 (2021)
https://doi.org/10.1186/s12915-020-00836-x

Following publication of the original article [1], it has been brought to the authors’ attention that after 16S sequencing of the v1-8 region, the bacterium which we originally believed to be F. prausnitzii (a butyrate-producer) in our penultimate figure, Fig. 5k and Additional file 1: Figure S5B, was in fact L. plantarum (a lactate-producer). This does not affect the other data, especially the animal work, nor does it alter the final conclusions of this manuscript.

The correct Figs. 5 and S5 and their caption have been included below and the fully corrected version of Additional file 1 is attached to this Author Correction, and the original article [1] has been corrected.

The original article can be found online at https://doi.org/10.1186/s12915-020-00836-x.

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Figure S5. Cell survival analysis of RT112 bladder tumour cells treated with SCFAs and bacterial supernatants. (A) Inhibition of cell viability of RT112 cells single SCFA and combined SCFAs mixture in a time-dependent manner (N=3). The combined SCFAs denote the mixtures of 10 mM butyrate, 10 mM propionate, 10 mM butyrate for the left-hand graph and the mixtures of 10 mM butyrate, 5 mM propionate, 1.7 mM butyrate for the right-hand graph. (B) Reduced cell survival of RT112 cells by bacterial supernatants at day 3 (N=1). BA+LP denotes the cross-feeding of B. acidifaciens and L. plantarum, while Bif+LP denotes the cross-feeding of Bifidobacterium and L. plantarum. *P<0.05; **P<0.01; ***P<0.001.
Fig. 5 (See legend on next page.)
Furthermore, some sentences in the original article's main text need to be corrected. The affected text has been highlighted in bold typeface, and the original article [1] has been corrected.

**Previous version**

**Results**

We treated the bladder tumour cells with bacterial supernatants of *B. acidifaciens* and its cross-feeding with *F. prausnitzii*, and compared their effects with *Bifidobacterium* (acetate-producer) and *F. prausnitzii* (butyrate-producer). Bacterial supernatants of *B. acidifaciens* and its cross-feeding with *F. prausnitzii* significantly increased cytotoxicity of bladder tumour cells compared to the other supernatants in day 2 (Figure 5K) and in day 3 (Additional file 1: Figure S5B).

**Discussion**

In this study, we revealed that bacterial supernatant from *B. acidifaciens* and its cross-feeding with *F. prausnitzii* caused significantly higher levels of cytotoxicity compared to the other supernatants (Figure 5K and Additional file 1: Figure S5B). This result supports our finding that *B. acidifaciens* may drive the radiosensitising effect. Moreover, *B. acidifaciens* in vitro has a greater effect on cell kill than *F. prausnitzii* (butyrate-producer; p<0.001), implying that metabolites other than butyrate may be involved in its effect.

**Methods**

All bacterial strains were obtained from DSMZ-German collection of microorganisms. Three strains of bacteria, namely *B. acidifaciens* (BA; DSM 15896), *Bifidobacterium animalis* (Bif; DSM10140), *F. prausnitzii* (FP; DSM17677), and two cross-feeding combinations (BA+FP and Bif+FP) were cultured in Gifu Anaerobic Broth, Modified (GAM; Nissui Pharmaceutical, Japan).

**Corrected version**

To validate the anti-tumoural effects of *B. acidifaciens*, we treated the bladder tumour cells with bacterial supernatants of *B. acidifaciens* and its cross-feeding with *L. plantarum*, and compared their effects with *Bifidobacterium* (acetate-producer) and *L. plantarum* (lactate-producer). Bacterial supernatants of *B. acidifaciens* and its cross-feeding with *L. plantarum* significantly increased cytotoxicity of bladder tumour cells compared to the other supernatants in day 2 (Figure 5K) and in day 3 (Additional file 1: Figure S5B).

**Discussion**

In this study, we revealed that bacterial supernatant from *B. acidifaciens* and its cross-feeding with *L. plantarum* caused significantly higher levels of cytotoxicity compared to the other supernatants (Figure 5K and Additional file 1: Figure S5B). This result supports our finding that *B. acidifaciens* may drive the radiosensitising effect. Moreover, *B. acidifaciens* in vitro has a greater effect on cell kill than *L. plantarum* (lactate-producer; p<0.001), implying that metabolites other than lactate may be involved in its effect.

**Methods**

All bacterial strains were obtained from DSMZ-German collection of microorganisms. Three strains of bacteria, namely *B. acidifaciens* (BA; DSM 15896), *Bifidobacterium animalis* (Bif; DSM10140), *L. plantarum* (LP), and two cross-feeding combinations (BA+LP and Bif+LP) were cultured in Gifu Anaerobic Broth, Modified (GAM; Nissui Pharmaceutical, Japan).

**Supplementary Information**

The online version contains supplementary material available at https://doi.org/10.1186/s12915-021-01066-5.
acidifaciens and Parabacteroides genus. Table S1. Rodent diets used in the study with varying levels of cellulose or inulin per 4000 kcal. Table S2. Details mouse diets, cages, B. acidifaciens relative abundance and time of culling.

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Published online: 09 July 2021

Reference
1. Then CK, Paillas S, Wang X, Hampson A, Kiltie AE. Association of Bacteroides acidifaciens relative abundance with high-fibre diet-associated radiosensitisation. BMC Biol. 2020;18(1):102 https://doi.org/10.1186/s12915-020-00836-x.