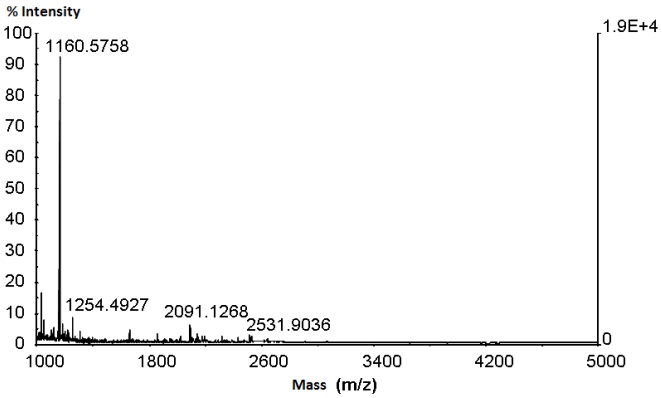
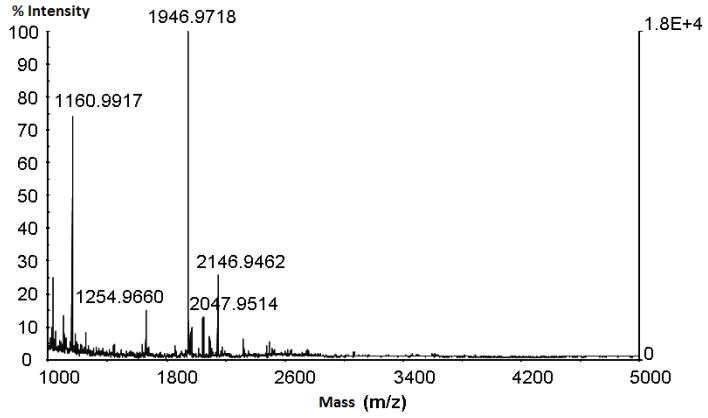
A

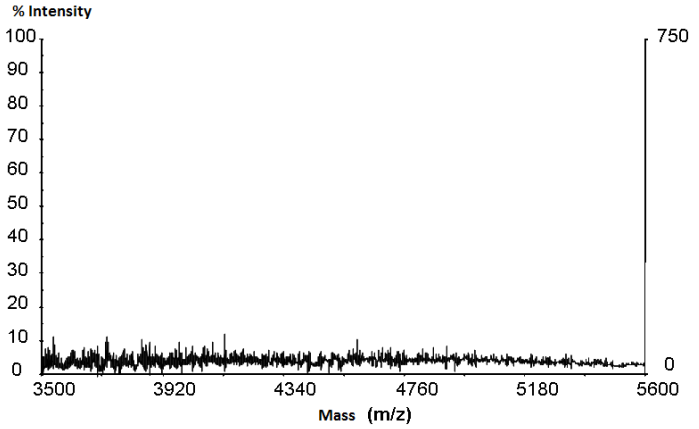


B

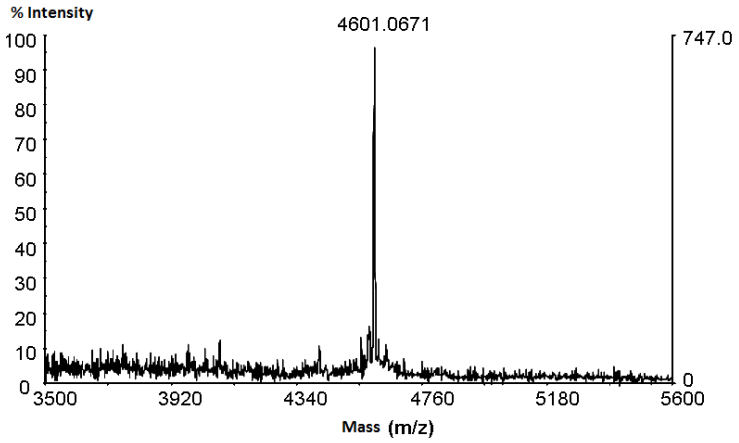


Supplementary file S1 MALDI TOF MS spectra generated from preparative HPLC purified F2' (A) and F2 fractions (B) showing three ions at *m/z* 1946.97, 2047.95 and 2146.94, only in (B) MS spectrum.

A

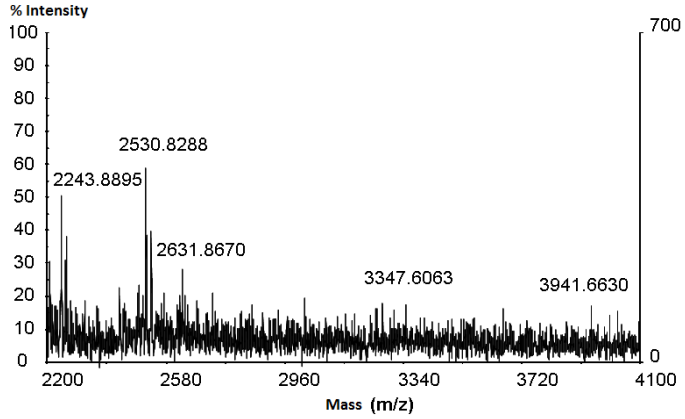


B

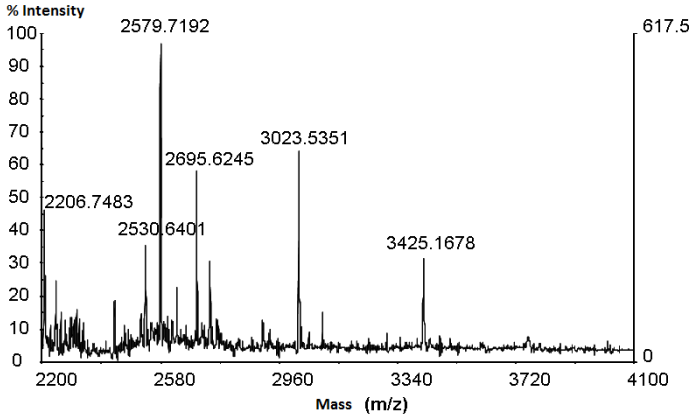


Supplementary file S2 MALDI TOF MS spectra (zoom scan for the *m/z* range 3500-5600) generated from F2' (A) and F2 fractions (B) showing one ion at *m/z* 4601.06, only in (B) MS spectrum.

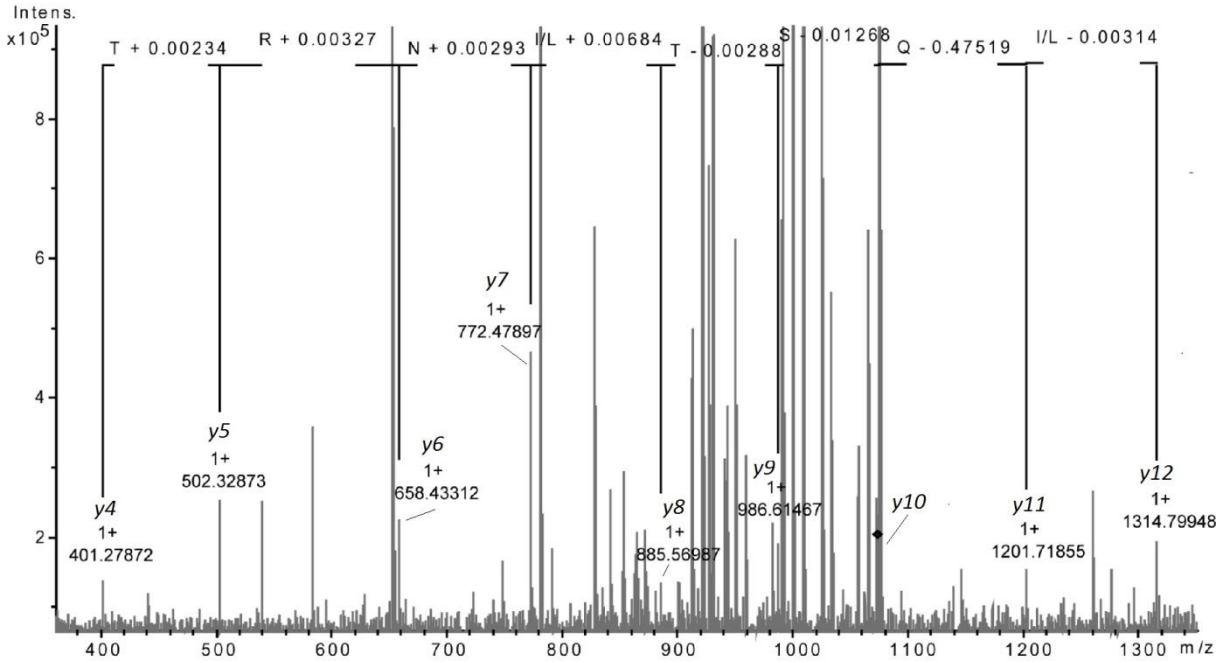
A



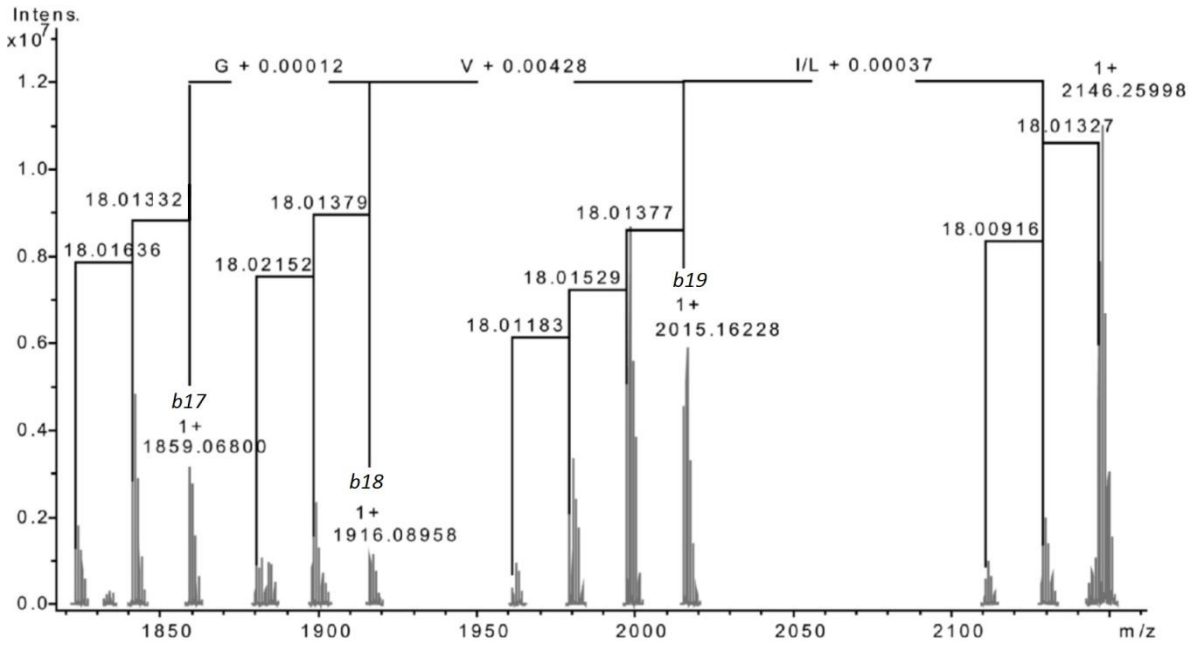
B



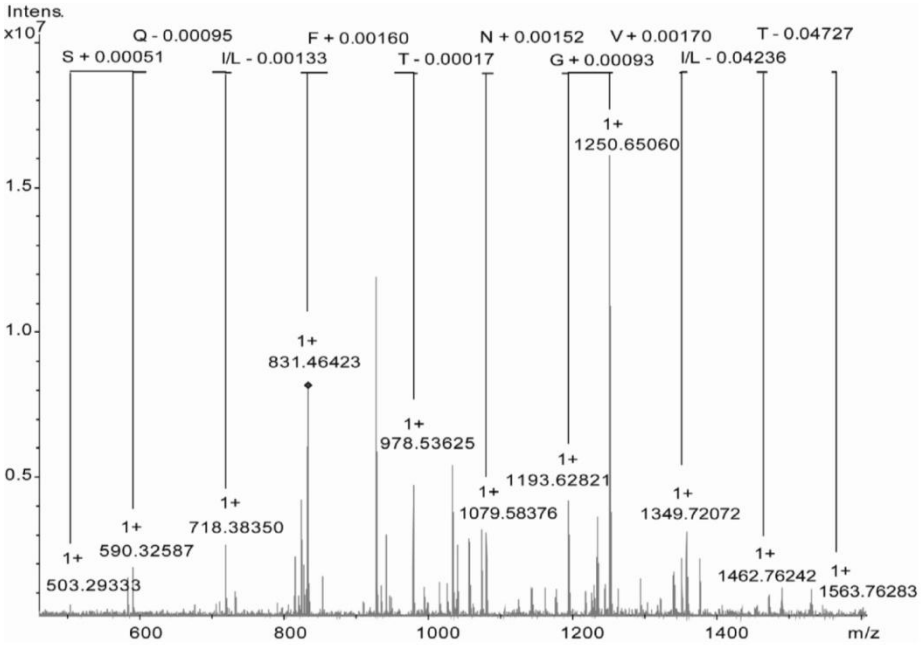
Supplementary file S3 MALDI TOF MS spectra generated from preparative HPLC purified F2’ (A) and F2 fractions (B) showing one ion at *m/z* 2579.72, only in (B) MS spectrum.



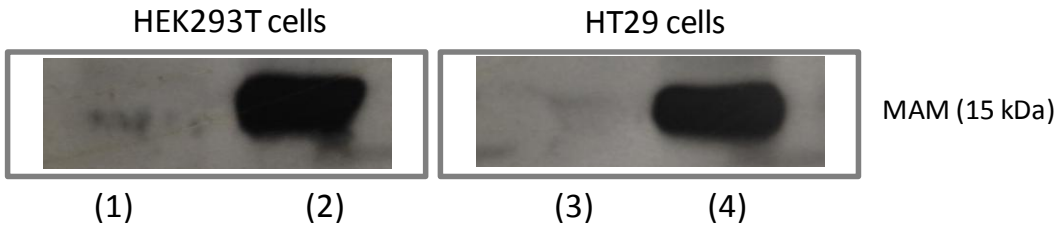
Supplementary file S4 FT ICR CID spectrum of the $[M + 2H]^{2+}$ m/z 1073.61 precursor ion (zoom scan for the m/z range 360–1340): singly charged *y*-ion series were observed (*y*-ions *y4* to *y12*).



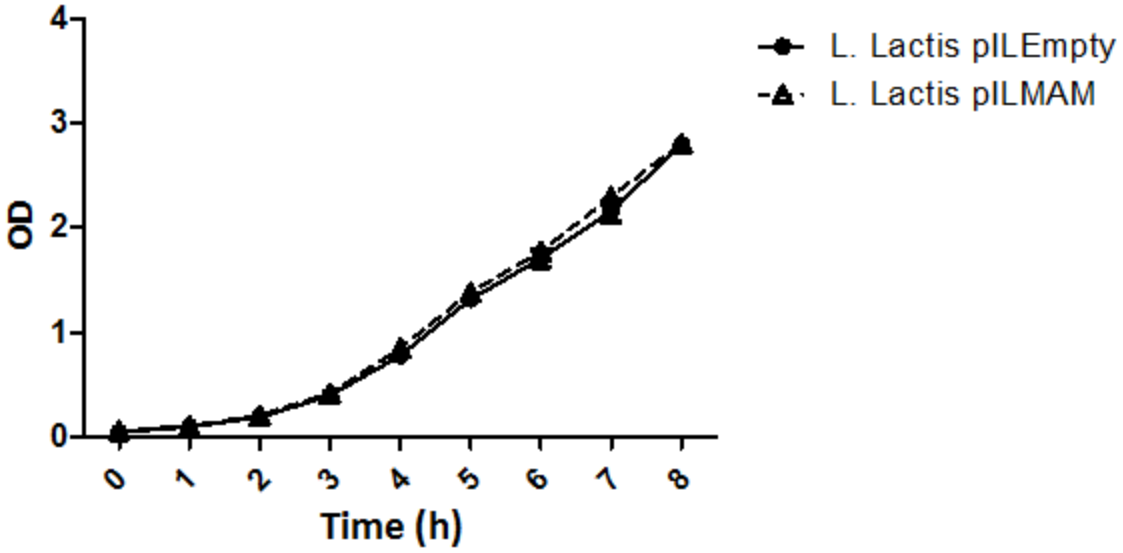
Supplementary file S5 Charge deconvoluted positive ion ESI FT ICR mass spectrum of the $[M + 2H]^{2+}$ m/z 1073.61 precursor ion (zoom scan for the m/z range 1820–1860). A *b*-ion series (*b17* to *b20,* and with their water loss) were observed corresponding to



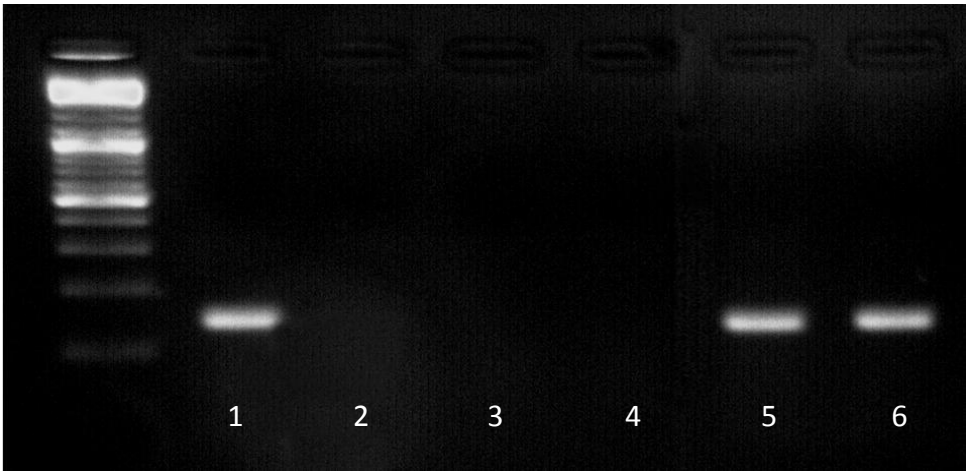
Supplementary file S6 FTICR CID spectrum of the $[M + 2H]^{2+}$ m/z 831.96 precursor ion (a fragment from the native peptide at $[M + H]^{+}$ m/z 2146.94). De novo sequencing generated a second probable partial amino acid sequence.



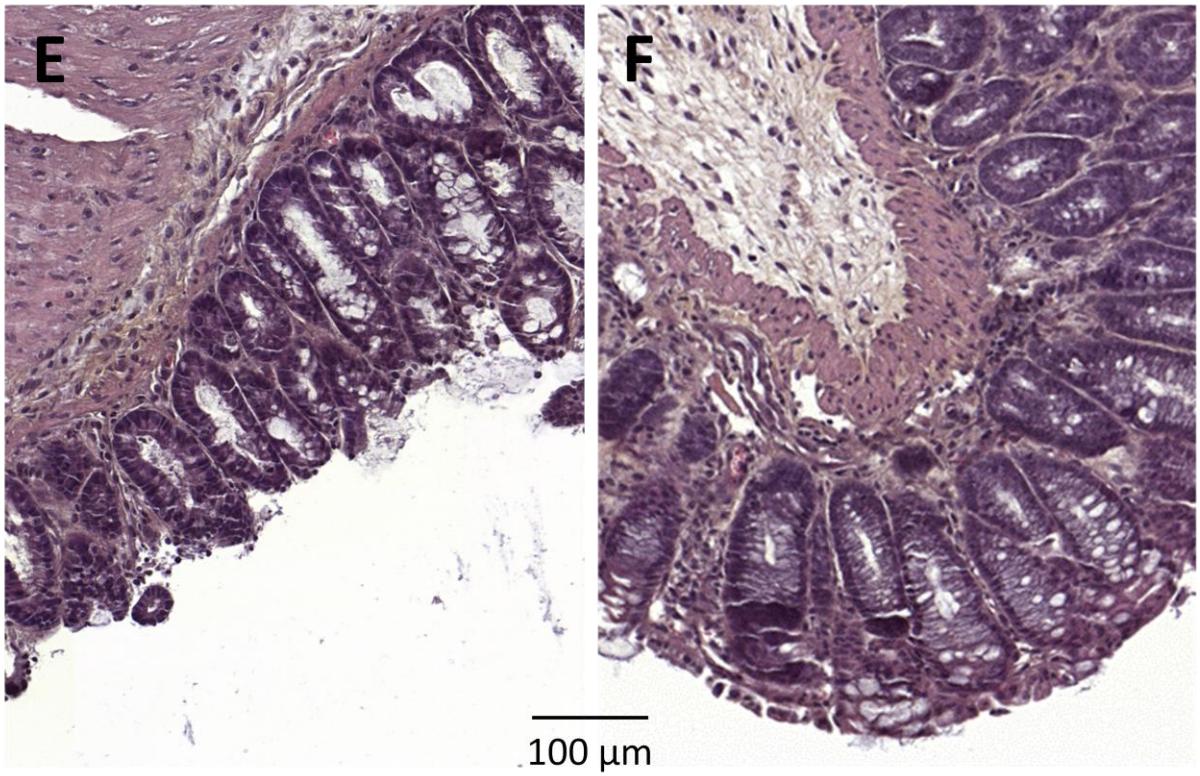
Supplementary file S7 Western Blot detection with anti-flag antibody of MAM-flag protein in HEK293T and HT29 cells transfected with pILMAM (2, 4). No detection of MAM-flag was observed in cells transfected with pILEMPTY (1, 3).



Supplementary file S8 Similar growth curves of *L. lactis* pIL MAM and *L. lactis* pILEmpty



Supplementary file S9 PCR detection of MAM gene on pILMAM plasmid (1) and on RNA extract from small intestine enterocytes of mice fed with pILMAM *L. lactis* (2); RT-PCR for MAM gene detection in small intestine enterocytes (3) and large intestine enterocytes (4) of mice fed with pILEmpty *L. lactis* and in small intestine enterocytes (5) and large intestine enterocytes (6) of mice fed with pILMAM *L. lactis*



Supplementary file S10. No histological differences have been observed between colon sample of mice fed with *L. lactis* pILMAM and colon sample of mice fed with *L. lactis* pILEMPTY. Histological scores have been done under Ameho criteria