# Supplementary information attached file

**Table S1. Detection inmunosensor results against *E.coli*. This analysis includes a list of serial samples quantified of the *E.coli* CECT425 strain and E.coli CECT425 spiked on water for human consumption samples without the confirmed presence of *E.coli*. The evaluation aimed to assess the performance of the detection method across different operators and measurement equipment, but on identical samples.**

| Target sample* | Inmunosensor response** | Quantitative Enumeration (CFU/100 ml)*** |
|---|---|---|
| *E.coli* CECT425 01/2023 | + | 2,5 x $10^6$ |
| *E.coli CECT425 01/2023* | - | 0 |
| *E.coli* CECT425 01/2023 | + | 2,5 x$10^5$ |
| *E.coli* CECT425 01/2023 | + | 2,5 x $10^4$ |
| *E.coli CECT425 01/2023* | + | 4 x $10^3$ |
| *E.coli* CECT425 03/2023 | + | 4x $10^1$ |
| *E.coli* CECT425 03/2023 | + | 4 x $10^2$ |
| *E.coli* CECT425 03/2023 | + | 3,8 x *$10^6$* |
| *E.coli* CECT425 03/2023 | + | 3,8 x $10^4$ |
| *E.coli CECT425 03/2023* | + | 3,8 x $10^5$ |
| *E.coli CECT425 04/2023* | - | 0 |

| | | |
|---|---|---|
| *E.coli* CECT425 04/2023 | + | *1 x10²* |
| *E.coli* CECT425 04/2023 | + | 1x $10^3$ |
| *E.coli* CECT425 04/2023 | - | 0 |
| *E.coli* CECT425 04/2023 | - | 1x $10^1$ |
| Water sample + CECT425 | + | 2 x $10^3$ |
| Water sample + CECT425 | + | 4,5 x $10^5$ |
| Water sample + CECT425 | + | 2,0 x $10^2$ |
| Water sample + CECT425 | + | 3,2 x $10^1$ |
| Water sample + CECT425 | + | 3,0 x $10^5$ |
| Water sample + CECT425 | + | 4,6 x $10^3$ |
| Water sample + CECT425 | + | 5,2 x $10^2$ |
| Water sample + CECT425 | + | 2,0 x $10^1$ |
| Water sample + CECT425 | + | 1,0 x $10^2$ |
| Water sample + CECT425 | + | 2,0 x $10^1$ |
| Water sample + CECT425 | + | 1,5 x $10^5$ |
| Water sample + CECT425 | + | 6,2 x $10^4$ |
| Water sample + CECT425 | + | 1,5 x $10^3$ |
| Water sample + CECT425 | + | 4,6 x $10^2$ |
| Water sample + CECT425 | - | 0 |
| Water sample + CECT425 | + | 1,0 x $10^1$ |

* Samples were in chronological order: inoculum strain CECT425 and water for human consumption samples spiked with *E.coli* strain CECT 425.
** + Inmunosensor detection of *E.coli*.- Absence of *E.coli*.
*** *E.coli* artificial contamination was estimated based on the concentration of Colony Forming Units (CFU) per 100 milliliters (CFU/100 mL) in the first dilution of each sample. This measurement reflects the number of *E.coli* entire bacteria in the initial sample.

**Table S2. Detection inmunosensor results of water for human consumption samples naturally contaminated by *E.coli*. This analysis includes a list of quantified samples of serial dilutions of real water for human consumption samples employed in a food industry.**

| Target sample * | Inmunosensor response** | Quantitative Enumeration (CFU/100 ml)*** |
|---|---|---|
| Sample 1 01/2003 | + | 6,5 x*10⁶* |
| Sanple 2 01/2003 | + | 1,4 x*10⁶* |
| Sample 3 01/2003 | + | 1,3 x*10⁶* |
| Sample 4 01/2003 | + | 7,5 x $10^5$ |

| | | |
|---|---|---|
| Sample 5 01/2003 | + | $2 \times 10^4$ |
| Sample 6 03/2003 | + | $7{,}8 \times 10^3$ |
| Sample 7 03/2003 | - | 0 |
| Sample 8 03/2003 | - | 0,2 |
| Sample 9 01/2003 | + | $8{,}0 \times 10^2$ |
| Sample 10 01/2003 | + | $1{,}7 \times 10^1$ |
| Sample 11 01/2003 | + | $1{,}2 \times 10^7$ |
| Sample 12 01/2003 | + | $2{,}5 \times 10^5$ |
| Sample 13 03/2003 | + | $1{,}2 \times 10^8$ |

* Samples were in chronological order: water for human consumption samples naturally contaminated by *E.coli*.
** + Inmunosensor detection of *E.coli* - Inmunosensor Absence response *E.coli*.
*** *E.coli* natural contamination was estimated based on the concentration of Colony Forming Units (CFU) per 100 milliliters (CFU/100 mL) in the first dilution of each sample. This measurement reflects the number of *E.coli* entire bacteria in the initial sample.