**Supplementary table 1.** Evaluation of slope, $R^2$, and efficiency using the developed primer sets.

| Target species | Primer | Recombinant plasmid | | | Genomic DNA | | |
|---|---|---|---|---|---|---|---|
| | | Y (Slope) | $R^2$ | Efficiency (%) | Y (Slope) | $R^2$ | Efficiency (%) |
| *Curcuma longa* | *CL_matK* | -3.50 | 1.00 | 93.14 | -3.47 | 1.00 | 94.22 |
| | *CL_atpF* | -3.14 | 1.00 | 108.40 | -3.42 | 0.99 | 95.92 |
| | *CL_ycf2* | -3.35 | 1.00 | 98.94 | -3.47 | 1.00 | 94.09 |
| *Zea mays* | *ZM_matK* | -3.48 | 1.00 | 93.72 | -3.54 | 1.00 | 91.78 |
| | *ZM_atpF* | -3.21 | 1.00 | 104.89 | -3.45 | 1.00 | 94.96 |
| | *ZM_ycf2* | -3.43 | 1.00 | 95.57 | -3.53 | 1.00 | 92.16 |

**Supplementary table 2.** Result of the real-time PCR assay in an interlaboratory experiment.

| Target species | Primer | Laboratory 1 | | | Laboratory 2 | | |
|---|---|---|---|---|---|---|---|
| | | Y (Slope) | $R^2$ | Efficiency (%) | Y (Slope) | $R^2$ | Efficiency (%) |
| *Curcuma longa* | *CL_matK* | -3.50 | 1.00 | 93.14 | -3.47 | 1.00 | 94.22 |
| | *CL_atpF* | -3.14 | 1.00 | 108.40 | -3.42 | 0.99 | 95.92 |
| | *CL_ycf2* | -3.35 | 0.99 | 98.94 | -3.47 | 1.00 | 94.09 |
| *Zea mays* | *ZM_matK* | -3.48 | 1.00 | 93.72 | -3.54 | 1.00 | 91.78 |
| | *ZM_atpF* | -3.41 | 1.00 | 96.32 | -3.45 | 1.00 | 94.96 |
| | *ZM_ycf2* | -3.43 | 1.00 | 95.57 | -3.53 | 1.00 | 92.16 |

**Supplementary table 3.** Evaluation of the slope, $R^2$, and efficiency using binary mixtures containing three different intentionally added powders.

| **Target species** | **Primer** | **Binary mixture with *Zea mays*** | | | | **Binary mixture with *Oryza sativa*** | | | | **Binary mixture with *Triticum aestivum*** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Y (Slope)** | **$R^2$** | **Efficiency (%)** | **Cut-off Cts** | **Slope** | **$R^2$** | **Efficiency (%)** | **Cut-off Cts** | **Slope** | **$R^2$** | **Efficiency (%)** | **Cut-off Cts** |
| *Curcuma longa* | CL_matK | -3.55 | 0.99 | 91.29 | 28.65 | -3.5 | 0.99 | 93.07 | 27.08 | -3.47 | 1 | 94.17 | 26.90 |
| | CL_atpF | -3.54 | 1 | 91.64 | 28.60 | -3.35 | 1 | 98.84 | 26.85 | -3.53 | 1 | 91.99 | 26.82 |
| | CL_ycf2 | -3.44 | 1 | 95.3 | 29.59 | -3.5 | 0.99 | 93.07 | 29.19 | -3.38 | 1 | 97.63 | 28.87 |

| Target species | Primer | Binary mixture with *Curcuma longa* | | | |
|---|---|---|---|---|---|
| | | Y (Slope) | $R^2$ | Efficiency (%) | Cut-off Cts |
| *Zea mays* | ZM_matK | -3.38 | 0.99 | 97.63 | 28.41 |
| | ZM_atpF | -3.12 | 1 | 109.18 | 29.68 |
| | ZM_ycf2 | -3.44 | 1 | 95.3 | 27.58 |

**Supplementary table 4.** Information on the commercial food products.

| Species | Sample | Sample type | Ingredients |
|---|---|---|---|
| *Curcuma longa* | 1 | Turmeric powder | *Curcuma longa* 100% |
| | 2 | Turmeric powder | *Curcuma longa* 100% |
| | 3 | Turmeric powder | *Curcuma longa* 100% |
| | 4 | Turmeric powder | *Curcuma longa* 100% |
| | 5 | Turmeric powder | *Curcuma longa* 100% |
| | 6 | Pill | *Curcuma longa* 49% Dried orange peel 41% Sticky rice 10% |
| | 7 | Turmeric powder | *Curcuma longa* 100% |
| | 8 | Turmeric powder | *Curcuma longa* 100% |
| | 9 | Turmeric powder | *Curcuma longa* 100% |
| | 10 | Turmeric powder | *Curcuma longa* 100% |