

Table S1. Contribution of gallic acid (GA) to the astringent and bitter taste perceived from beverages.

Table S2. Cell viability. HGT-1 cells were treated with gallic acid (GA) [500, 1000 and 1500 μ M] for 60 mins. Data are shown as mean \pm SEM of three biological replicates with 3-4 technical replicates, calculated as treated over control (Cells treated with solvent control are set to 100%). Statistics: One-way ANOVA on Ranks with post-hoc Dunn's method test, vs. control.

Table S3. Cell viability. HGT-1 cells wt and TAS2R43 ko and TAS2R4 ko were tested for the cell viability after the incubation with the respective substances and combinations of substances for 10 or 60 min (indicated with * for the gene expression analysis). Data are shown as mean \pm SEM of three biological replicates with 3-4 technical replicates, calculated as treated over control (Cells treated with solvent control are set to 100%). Statistics: One-way ANOVA on Ranks with post-hoc Dunn's method test, vs. control.

Figure S1: Verification of deletion on mRNA level by Sanger sequencing compared to wild-type HGT-1 cells.

Table S1.

Authors	Food item	GA Concentration	Threshold concentration	
			Astringency	Bitterness
Glabasnia and Hofmann ²	Whiskey, oak-matured red wine		292 $\mu\text{mol/L}$, 45 mg/L	n.d.
Kaneko and Hofmann ¹¹	Japanese green tea	30 $\mu\text{mol/L}$	200 $\mu\text{mol/L}$,	n.d.
Hufnagel und Hofmann ³	Red wine	19.2 $\mu\text{mol/L}$ (17.5 – 20.2 mg/L)	292 $\mu\text{mol/L}$, 50 mg/L	n.d.
Robichaud and Noble ⁴	White wine spiked with GA		No threshold determined, but increasing astringency from 59 to 8817 $\mu\text{mol/L}$	No threshold determined, but increasing bitterness from 59 to 8817 $\mu\text{mol/L}$

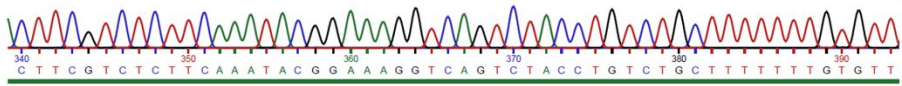
Table S2.

Cell line	Treatment	Mean	SEM
HGT-1 wt	GA [1000 μ M]	94.1	3.15
	Ethanol 1:250 dilution in cell culture medium	103.9	1.69
	Zweigelt 1:250 dilution in cell culture medium	101.6	2.16
	Blaifränkisch 1:250 dilution in cell culture medium	97.7	2.12
	Zweigelt + GA [10 μ M]	100.8	3.09
	Blaifränkisch + GA [10 μ M]	107.9	3.26
	GA [10 μ M] + 6-Methoxyflavanone [100 μ M]	97.5	3.09
	GA [10 μ M] + TMBP [100 μ M]	99.7	2.95
	GA [10 μ M] + HED [10 μ M]	105.7	3.48
	Zweigelt + GA [10 μ M] + HED [1 μ M]	105.5	1.35
	Blaifränkisch + GA [10 μ M] + HED [1 μ M]	103.0	1.36
HGT-1 TAS2R43ko	GA [10 μ M]	100.3	2.98
	GA [10 μ M] + HED [10 μ M]	104.6	3.42
HGT-1 TAS2R4ko	GA [1000 μ M]	103.8	3.81

Figure S1

TAS2R4ko - Identification of deletion on mRNA level by Sanger sequencing
control (no cleavage)

CTTCGTCTCTTCAAATACGGAAAGGTCAGTCTACCTGTCTGCTTTTTTTGTGTT



TAS2R4ko CTTCGTCTCTTCAAATAC-----9bp-----AGTCTACCTGTCTGCTTTTTTTGTGTT

