Supporting material Table 1.

Plasma matrix effect and extraction efficiency of healthy human plasma.

Compound name	Matrix effect		Yield extraction	
	250 ng/mL	31.25 ng/mL	250 ng/mL	31.25 ng/mL
Adrenic acid				
Ent-7(*RS*)-F_{2t}-dihomo IsoP	66.8 ± 9.6	63.1 ± 8.2	63.2 ± 2.3	77.6 ± 1.2
17(*RS*)-F_{2t}-dihomo IsoP	68.2 ± 9.2	69.1 ± 8.4	62.9 ± 2.8	83.9 ± 2.5
Arachidonic acid				
15-*epi*-15-F_{2t}-IsoP	70.5 ± 9.2	74.1 ± 7.7	58.9 ± 2.5	73.2 ± 2.0
15-F_{2t}-IsoP	68.6 ± 9.7	73.2 ± 9.0	59.6 ± 2.0	69.9 ± 2.3
5-F_{2t}-IsoP	64.7 ±10.7	82.1 ± 7.6	61.3 ± 2.6	62.4 ± 10.5
5-*epi*-5-F_{2t}-IsoP	69.2 ± 9.5	64.9 ± 10.3	58.0 ± 3.0	72.3 ± 8.0
2,3-dinor-15-F_{2t}-IsoP	59.6 ± 8.2	57.0 ± 6.9	51.6 ± 0.9	71.1 ± 11.6
Ent-15(*RS*)-2,3-dinor-5,6-dihydro-15-F_{2t}-IsoP	62.5 ± 9.3	73.6 ± 2.4	57.9 ± 0.9	79.1 ± 5.5
d_4-15-F_{2t}-IsoP	67.1 ± 8.8		69.8 ± 8.6	
C21-15-F_{2t}-IsoP	61.2 ± 8.6		79.2 ± 9.9	
Alpha-Linolenic acid				
Ent-16-epi-F_{1t}-PhytoP	58.0 ± 8.7	53.5 ± 6.1	40.5 ± 2.1	58.3 ± 5.7
Ent-16-F_{1t}-PhytoP	58.7 ± 8.6	53.8 ± 6.4	42.7 ± 1.6	60.4 ± 3.2
9-F_{1t}-PhytoP	56.7 ± 8.5	53.7 ± 5.5	46.7 ± 1.7	65.2 ± 7.3
9-e*pi*-9-F_{1t}-PhytoP	59.1 ± 8.9	51.8 ± 6.4	45.0 ± 1.2	67.1 ± 7.6
Eicosapentaenoic acid				
8-F_{3t}-IsoP	65.5 ± 8.8	57.8 ± 8.2	54.0 ± 2.1	74.2 ± 4.9
8-*epi*-8-F_{3t}-IsoP	64.5 ± 8.9	62.1 ± 6.2	55.5 ± 2.4	65.5 ± 3.4
5-F_{3t}-IsoP	59.9 ± 8.0	65.1 ± 6.4	104.9 ± 4.3	117.9 ± 5.8
5-*epi*-5-F_{3t}-IsoP	64.7 ± 7.7	68.2 ± 8.9	112.0 ± 6.4	131.8 ± 0.6

Docosahexaenoic acid				
10-F_{4t}-NeuroP	75.3 ± 9.7	68.2 ± 9.8	54.9 ± 2.5	74.0 ± 5.4
10-*epi*-10-F_{4t}-NeuroP	72.5 ± 9.1	64.6 ± 8.4	55.7 ± 2.5	77.4 ± 0.1
14(*RS*)-14-F_{4t}-NeuroP	77.3 ± 8.1	82.6 ± 7.1	58.9 ± 4.8	52.0 ± 10.6
4(*RS*)-F_{4t}-NeuroP	73.1 ± 11.1	92.7 ± 4.0	61.0 ± 3.9	76.6 ± 0.1
d_4-10-*epi*-10-F_{4t}-NeuroP	66.2 ± 4.1		72.5 ± 7.2	
d_4-10-F_{4t}-NeuroP	73.5 ± 4.7		68.1 ± 7.6	
d_4-4(*RS*)-F_{4t}-NeuroP	64.8 ± 12.1		63.8 ± 7.4	

The matrix and extraction yield were tested by the addition of low and high concentration of the respective compounds as described in Section 2. IsoP: isoprostane; NeuroP: neuroprostane.

Supporting material Table 2

Repeatability and accuracy of the method for isoprostanes evaluation in human plasma.

Compound	Nominal conc.	Intraday			Interday		
	(ng/mL)	Measured	RSD %	Accuracy %	Measured	RSD %	Accuracy %
Adrenic acid							
Ent-7(*RS*)-F_{2t}-dihomo-IsoP	3.91	3.91 ± 0.28	0.32	102.28	4.48 ± 0.81	18.04	114.61
	31.25	31.31 ± 0.37	0.24	101.53	33.79 ± 0.67	1.97	82.35
	250	256.91 ±1.65	0.17	102.77	273.58 ± 4.50	1.65	111.12
17(*RS*)-F_{2t}-dihomo-IsoP	3.91	n.d	n.d	n.d	n.d	n.d	n.d
	31.25	31.24 ± 1.77	0.16	96.37	26.41 ± 0.83	3.13	84.43
	250	253.60 ±0.53	0.11	101.44	262.76 ± 7.84	2.98	105.10
Arachidonic acid							
15-*epi*-15-F_{2t}-IsoP	3.91	3.96 ± 0.54	0.52	108.20	4.50 ± 0.18	4.02	115.29
	31.25	31.57 ± 1.04	0.42	97.39	33.44 ± 0.50	1.50	86.94
	250	254.41 ± 1.72	0.30	101.77	269.80 ± 10.52	3.90	104.69
15-F_{2t}-IsoP	3.91	4.10 ± 0.27	0.47	108.82	4.21 ± 0.59	13.98	107.85
	31.25	30.94 ± 1.44	0.38	100.42	32.60 ± 0.45	1.39	84.51
	250	257.20 ± 4.92	0.27	102.88	275.25 ± 5.98	2.17	106.05
5-F_{2t}-IsoP	3.91	3.64 ± 0.02	0.49	93.26	4.14 ± 0.37	8.91	105.95
	31.25	31.48 ± 0.60	0.33	99.68	30.02 ± 0.97	3.22	88.39

	250	260.76 ±1.08	0.23	104.30	268.06 ± 3.60	1.34	107.19
5-*epi*-5-F_{2t}-IsoP	3.91	3.71 ± 0.13	0.35	93.84	3.79 ± 0.41	0.71	91.19
	31.25	31.41 ± 0.86	0.26	102.67	32.24 ± 0.30	0.92	80.90
	250	254.45 ±5.61	0.17	101.78	271.10 ± 4.77	1.76	108.36
2,3-dinor-15-F_{2t}-IsoP	3.91	3.50 ± 0.11	3.09	87.01	4.14 ± 0.52	12.56	105.99
	31.25	31.39 ± 0.20	0.62	100.34	30.06 ± 0.49	1.64	84.98
	250	253.89 ± 1.57	0.62	101.56	245.48 ± 8.11	3.30	98.61
Ent-15 -(*RS*)-2,3-dinor 5,6 dihydro-15-F_{2t}-IsoP	3.91	3.97 ± 0.32	8.05	110.80	4.80 ± 0.41	8.44	115.53
	31.25	31.27 ± 0.71	2.27	99.21	33.17 ± 1.22	3.68	92.75
	250	254.19 ± 1.94	0.09	101.67	237.99 ± 9.28	3.90	96.48
Alpha-Linolenic acid							
Ent-16-*epi*-16-F_{1t}-PhytoP	3.91	3.37 ± 0.25	7.49	81.73	4.04 ± 0.19	4.63	103.49
	31.25	31.39 ± 0.27	0.86	100.26	32.84 ± 0.55	1.68	87.89
	250	252.93 ± 2.70	1.07	101.17	251.57 ± 7.61	3.02	100.06
Ent-16-F_{1t}-PhytoP	3.91	3.66 ± 0.18	4.93	95.35	3.94 ± 0.10	2.56	100.96
	31.25	31.43 ± 0.22	0.70	100.12	31.82 ± 0.92	2.88	87.51
	250	254.35 ± 2.88	1.13	101.74	246.90 ± 9.44	3.82	98.89
9-F_{1t}-PhytoP	3.91	3.64 ± 0.09	2.38	90.53	4.24 ± 0.02	0.47	108.65
	31.25	31.31 ± 0.04	0.13	100.18	32.04 ± 0.87	2.71	85.74
	250	257.24 ± 3.60	1.40	102.90	256.15 ± 8.56	3.34	101.28

9-e*pi*-9-F_{1t}-PhytoP	3.91	3.57 ± 0.02	0.61	91.37	4.44 ± 0.28	6.22	113.55
	31.25	31.31 ± 0.58	1.87	99.36	31.25 ± 0.84	2.70	85.27
	250	256.35 ± 2.21	0.86	102.54	253.11 ± 7.69	3.04	100.54
Eicosapentaenoic acid							
8-F_{3t}-IsoP	3.91	3.48 ± 0.14	3.92	89.71	4.06 ± 0.77	18.90	103.87
	31.25	31.15 ± 0.61	1.96	100.59	32.05 ± 0.69	2.16	88.59
	250	253.18 ± 1.67	0.17	101.27	243.29 ± 8.38	3.45	97.93
8-*epi*-8-F_{3t}-IsoP	3.91	3.57 ± 0.13	0.41	94.08	4.42 ± 0.29	6.53	113.12
	31.25	31.48 ± 0.85	0.31	97.61	32.55 ± 1.19	3.66	89.77
	250	252.98 ± 3.52	0.21	101.19	243.60 ± 4.45	1.83	97.99
5-F_{3t}-IsoP	3.91	3.85 ± 0.61	0.86	86.07	3.60 ± 0.26	7.17	92.08
	31.25	31.02 ± 0.59	0.59	99.26	30.36 ± 1.21	3.97	89.52
	250	254.47 ± 4.08	0.40	101.79	226.63 ± 5.18	2.29	93.51
5-*epi*-5-F_{3t}-IsoP	3.91	3.75 ± 0.54	1.48	85.89	3.95 ± 0.26	6.57	101.03
	31.25	31.19 ± 1.11	0.86	102.31	30.20 ± 1.82	6.01	88.80
	250	254.04 ± 4.84	0.61	101.62	232.31 ± 8.13	3.50	95.10
Docosahexaenoic acid							
10-F_{4t}-NeuroP	3.91	3.47 ± 0.20	0.19	93.71	3.76 ± 0.11	2.81	96.17
	31.25	31.27 ± 0.96	0.16	103.17	32.18 ± 0.37	1.16	85.61
	250	256.74 ± 1.01	0.10	102.70	259.93 ± 3.98	1.53	102.25

10-*epi*-10-F_{4t}-NeuroP	3.91	3.75 ± 0.16	0.22	95.14	3.94 ± 0.47	11.83	100.92
	31.25	31.29 ± 0.16	0.17	99.53	31.72 ± 0.70	2.22	84.31
	250	256.15 ± 3.60	0.12	102.46	262.56 ± 1.97	0.75	102.93
14(*RS*)-14-F_{4t}-NeuroP	3.91	n.d	n.d	n.d	n.d	n.d	n.d
	31.25	33.66 ± 0.83	5.49	109.19	29.42 ± 2.84	9.66	94.15
	250	255.05 ± 9.44	4.32	102.02	258.99 ± 16.26	6.25	97.67
4(*RS*)-F_{4t}-NeuroP	3.91	n.d	n.d	n.d	n.d	n.d	n.d
	31.25	31.41 ± 2.40	2.03	101.15	35.16 ± 3.18	9.04	93.60
	250	256.93 ± 3.24	1.46	102.77	261.07 ± 3.00	1.15	102.47

Three nominal concentrations of the compounds were used to assess the stability of the compounds within the day (intraday) and between 15 days intervals (interday). IsoP: isoprostane; NeuroP: neuroprostane; IsoF: isofuran.