

Supporting Information for

Alkylated Trihydroxyacetophenone as a MALDI Matrix for Hydrophobic Peptides

Yuko Fukuyama,^{1} Chihiro Nakajima,¹ Keiko Furuichi,² Kenichi Taniguchi,¹ Shin-ichirou Kawabata,¹
Shunsuke Izumi,² and Koichi Tanaka¹*

¹ Koichi Tanaka Laboratory of Advanced Science and Technology, Shimadzu Corporation, 1, Nishinokyo-Kuwabaracho, Nakagyo-ku, Kyoto 604-8511, Japan

² Department of Mathematical and Life Sciences, Graduate School of Science, Hiroshima University, 1-3-1 Kagamiyama, Higashi-Hiroshima 739-8526, Japan

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CORRESPONDING AUTHOR

Yuko Fukuyama

phone +81-75-823-2897

e-mail yukof@shimadzu.co.jp

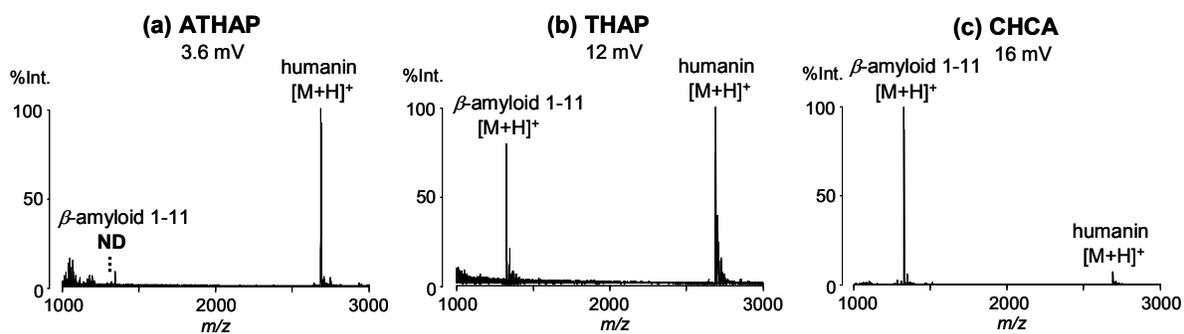


Figure S-1. Positive-ion mass spectra of 100 fmol equimolar mixture of β -amyloid 1-11 (HPLC Index 1.4, SSRCalc Hydrophobicity 13.5) and humanin (HPLC Index 117.4, SSRCalc Hydrophobicity 50.0) using (a) ATHAP, (b) THAP, or (c) CHCA. ND means that ions were not detected.

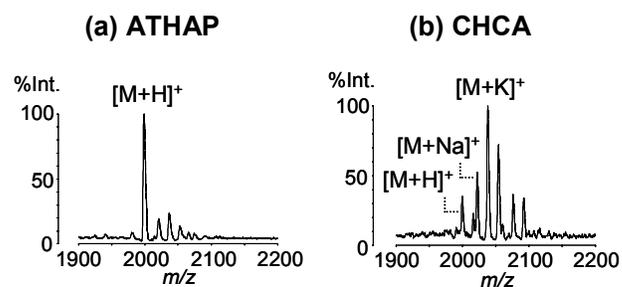


Figure S-2. Positive-ion mass spectra of 100 fmol β -amyloid 22-42 using (a) ATHAP or (b) CHCA.

Table S-1. Detection limit of hydrophobic peptide humanin.^a

	humanin (fmol/well)
	positive mode
C12-ATHAP	10
C10-ATHAP	1
C8-ATHAP	1
C6-ATHAP	10
THAP	10
CHCA	10

^a Detection limit of humanin (HPLC Index 117.4, SSRCalc Hydrophobicity 50.0) using ATHAP incorporating different acyl group chain lengths (C6, C8, C10, or C12 acyl group), THAP, or CHCA.

Table S-2. Correlation of the ion detection for phosphorylase b Lys-C digests and SSRCalc Hydrophobicity using C6-, C8-, C10-, C12-ATHAP or CHCA.^a

phosphorylase b Lys-C digests				detection (+/-)				
no.	SSRCalc Hydrophobicity	HPLC Index	<i>m/z</i> (Ave.)	CHCA	C6-ATHAP	C8-ATHAP	C10-ATHAP	C12-ATHAP
1	55.9	142.3	3602.2	-	-	++	++	-
2	53.9	109.0	3823.5	-	-	++	++	-
3	53.1	102.5	3890.3	-	-	++	+	-
4	51.0	109.5	3823.5	-	-	++	++	-
5	50.7	78.4	2198.6	+	+	++	++	-
6 ^b	45.8	69.5	2155.6	+	+	++	++	-
7 ^b	45.1	46.2	2742.0	+	-	+	+	-
8 ^b	42.8	52.7	2969.5	-	-	+	+	-
9	38.9	56.8	3504.9	-	-	++	++	-
10	35.1	66.1	1855.1	++	+	++	++	-
11	33.9	37.5	1657.0	+	+	+	++	-
12	33.6	14.3	2130.5	-	+	++	++	-
13	33.4	61.6	2629.0	++	+	++	++	-
14	31.4	36.9	1610.9	++	++	++	++	-
15	31.4	31.2	1814.1	++	++	++	++	-
16	31.2	59.8	1526.8	++	++	++	++	+
17 ^b	30.9	43.7	2043.3	++	++	++	++	-
18	30.4	27.5	1942.3	++	+	++	+	-
19	29.9	36.3	2449.7	+	-	-	-	-
20	28.4	38.1	1304.7	++	++	++	++	+
21	25.8	24.5	1263.4	++	++	-	++	-
22	24.7	27.3	1178.3	++	+	-	+	-
23	24.5	44.1	1290.5	++	++	+	++	-
24 ^b	18.9	8.7	1254.5	++	++	+	+	-
25 ^c	9.3	-0.7	1102.2	++	++	-	++	+

^a The ion detection for 1 pmol phosphorylase b Lys-C in-gel digests using ATHAP or CHCA in positive-ion mode (see Experimental Section). “++” indicates that the ions were detected with S/N \geq 5, “+” indicates that the ions were detected with S/N = 2 to 5, and “-” indicates that no ions were detected. C8-ATHAP corresponds to ATHAP in Table 2. ^b The peptides are carbamidomethylated and are not reflected in the SSRCalc Hydrophobicity or HPLC Index. ^c The peptide is acetylated, which is not reflected in the SSRCalc Hydrophobicity or HPLC Index.