

Supporting Information for

Structure-Activity Relationships of Radioiodinated Diphenyl Derivatives with Different

Conjugated Double Bonds as Ligands for α -Synuclein Aggregates

Masahiro Ono^{*,1}, Yuki Doi¹, Hiroyuki Watanabe¹, Masafumi Ihara²,

Akihiko Ozaki³, Hideo Saji¹

¹Department of Patho-Functional Bioanalysis, Graduate School of Pharmaceutical Sciences, Kyoto University, 46-29 Yoshida Shimoadachi-cho, Sakyo-ku, Kyoto 606-8501, Japan.

²Department of Stroke and Cerebrovascular Diseases, National Cerebral and Cardiovascular Center, 5-7-1 Fujishirodai, Suita-shi, Osaka 565-8565, Japan.

³Department of Neurology, Osaka Saiseikai Nakatsu Hospital, 2-10-39 Shibata, Kita-ku, Osaka 530-0012, Japan.

*To whom correspondence should be addressed. Phone: +81-75-753-4608, Fax: +81-75-753-4568,
e-mail: ono@pharm.kyoto-u.ac.jp for M. Ono.

Table S1. Biodistribution of radioactivity after intravenous injection of [¹²⁵I]IDP derivatives in normal mice^a

Tissue	Time after injection (min)			
	2	10	30	60
[¹²⁵I]4 ([¹²⁵I]IDP-1)				
Blood	2.09 (0.10)	1.38 (0.46)	1.45 (0.28)	0.74 (0.22)
Liver	10.31 (1.78)	10.21 (1.54)	8.51 (1.08)	5.45 (0.87)
Kidney	5.62 (0.46)	5.88 (1.60)	10.83 (2.09)	6.51 (2.07)
Intestine	1.56 (0.23)	4.44 (0.59)	9.00 (1.32)	9.88 (2.64)
Spleen	1.70 (0.31)	1.07 (0.33)	0.83 (0.09)	0.42 (0.16)
Pancreas	3.96 (0.56)	1.71 (0.72)	0.87 (0.53)	1.21 (1.65)
Heart	4.59 (0.27)	1.05 (0.09)	1.04 (0.18)	1.18 (1.47)
Lung	5.49 (0.78)	10.94 (7.68)	2.36 (1.00)	1.26 (0.27)
Stomach ^b	1.11 (0.38)	0.39 (0.07)	2.15 (0.66)	1.73 (0.50)
Brain	2.43 (0.10)	1.16 (0.20)	0.33 (0.07)	0.19 (0.05)
[¹²⁵I]8 ([¹²⁵I]IDP-2)				
Blood	6.25 (1.60)	2.78 (0.78)	2.37 (0.20)	1.59 (0.47)
Liver	29.94 (4.39)	25.93 (5.78)	24.36 (4.02)	18.53 (5.19)
Kidney	9.97 (0.91)	5.68 (0.96)	6.75 (0.99)	5.24 (1.76)
Intestine	1.91 (0.19)	5.17 (1.34)	7.20 (1.20)	18.91 (8.94)
Spleen	6.19 (1.62)	6.56 (0.90)	7.86 (1.59)	5.88 (2.10)
Pancreas	3.38 (0.21)	2.82 (0.82)	1.36 (0.21)	0.96 (0.32)
Heart	7.70 (2.08)	3.78 (1.22)	1.89 (0.28)	1.50 (0.52)

Lung	9.48 (0.80)	4.47 (0.85)	3.11 (0.59)	2.17 (0.49)
Stomach ^b	0.67 (0.06)	1.15 (0.54)	3.01 (1.42)	3.10 (2.60)
Brain	0.81 (0.11)	1.00 (0.30)	0.64 (0.12)	0.38 (0.13)
[¹²⁵I]12 ([¹²⁵I]IDP-3)				
Blood	13.34 (1.20)	4.86 (0.81)	3.26 (0.42)	2.45 (0.38)
Liver	33.84 (2.90)	35.07 (1.82)	27.16 (2.97)	16.13 (1.38)
Kidney	8.57 (0.96)	7.41 (0.67)	4.21 (0.24)	4.19 (0.57)
Intestine	1.03 (0.20)	2.82 (0.67)	9.15 (1.73)	16.39 (2.52)
Spleen	6.99 (1.46)	8.83 (1.23)	11.59 (3.49)	3.69 (0.67)
Pancreas	1.91 (0.24)	2.58 (0.28)	2.10 (0.21)	1.54 (0.22)
Heart	10.68 (3.08)	8.38 (1.25)	3.21 (0.67)	1.95 (0.30)
Lung	17.27 (2.66)	7.52 (2.02)	4.08 (0.32)	2.75 (0.48)
Stomach ^b	0.51 (0.07)	0.86 (0.14)	1.79 (0.98)	1.16 (0.56)
Brain	0.56 (0.04)	0.58 (0.06)	0.57 (0.06)	0.66 (0.06)
[¹²⁵I]16 ([¹²⁵I]IDP-4)				
Blood	14.01 (1.17)	4.38 (0.62)	2.92 (0.22)	2.62 (0.30)
Liver	42.39 (4.28)	51.67 (8.52)	43.98 (1.44)	26.79 (1.75)
Kidney	6.47 (0.68)	5.94 (0.84)	5.36 (0.60)	4.14 (0.39)
Intestine	0.86 (0.05)	1.80 (0.50)	4.55 (1.07)	10.34 (1.69)
Spleen	9.71 (1.82)	25.37 (8.05)	17.39 (6.21)	6.69 (1.93)
Pancreas	1.44 (0.52)	2.03 (0.40)	2.01 (0.43)	1.99 (0.27)
Heart	9.22 (1.94)	5.88 (1.05)	4.53 (1.16)	3.02 (0.64)
Lung	18.99 (2.22)	8.99 (1.80)	4.82 (0.27)	3.44 (0.58)
Stomach ^b	0.37 (0.07)	0.64 (0.13)	1.46 (0.37)	1.81 (0.64)

Brain	0.45 (0.03)	0.30 (0.03)	0.38 (0.04)	0.42 (0.04)
-------	-------------	-------------	-------------	-------------

^a Each value represents the mean (SD) for 5 animals.

^b Expressed as % injected dose per organ.

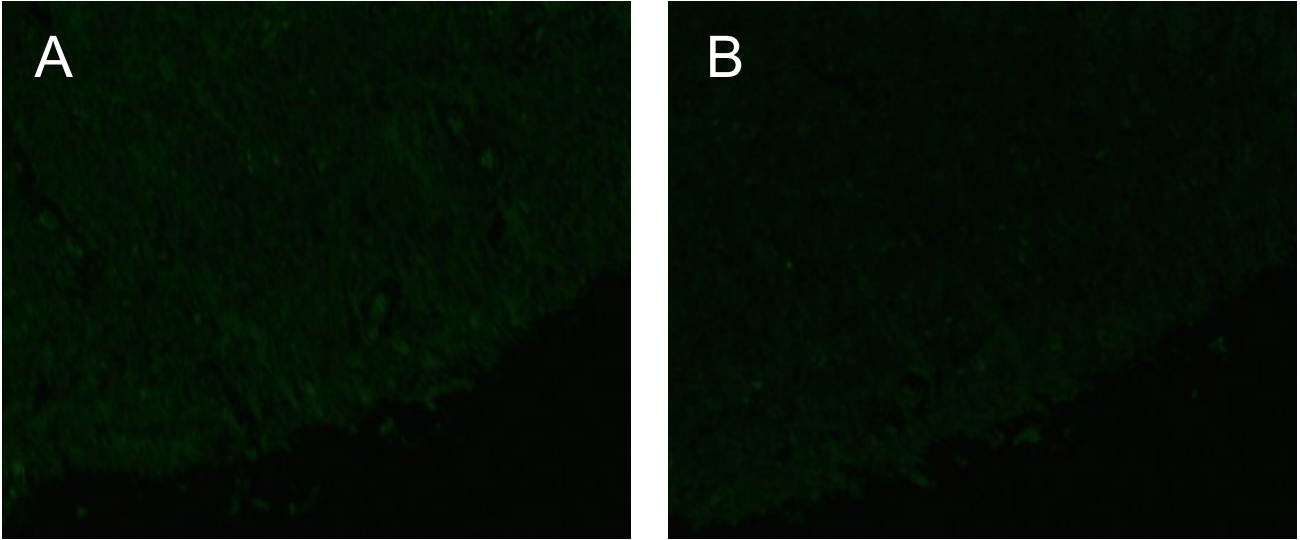


Figure S1. Fluorescent staining of IDP-1 (A) and IDP-2 (B) in brain sections from a PD patient. No marked fluorescence was observed in the brain sections.