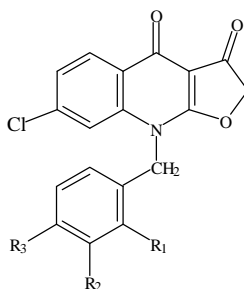


Table 28 The inhibitory effects of compounds **83-97** on the mast cell degranulation
(*in vitro*)

Inducer: Compound 48/80 (10 μ g/ml)

animal: Rat



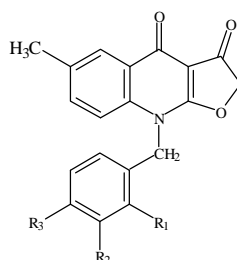
No.	R1	R2	R3	Conc. (μ M)	Percent Release			
					β -Glucuronidase	(% inh.)	Histamine	(% inh.)
control					38.1 \pm 1.7		59.9 \pm 0.2	
83	H	H	H	10	38.6 \pm 0.4	-1.6 \pm 3.1	57.1 \pm 1.7	4.7 \pm 2.3
				30	37.2 \pm 1.0	2.2 \pm 1.6	56.7 \pm 0.8	5.3 \pm 1.2
84	CH ₃	H	H	10	38.5 \pm 1.3	-1.1 \pm 1.5	55.7 \pm 0.7	6.9 \pm 1.3
				30	36.0 \pm 1.5	5.4 \pm 0.7	54.8 \pm 1.1	8.5 \pm 2.1
85	H	CH ₃	H	10	38.8 \pm 1.3	-1.9 \pm 2.6	57.0 \pm 2.0	4.8 \pm 2.8
				30	35.1 \pm 1.4	7.8 \pm 2.4	52.3 \pm 2.0	12.6 \pm 3.0
86	H	H	CH ₃	10	39.6 \pm 2.4	-3.9 \pm 2.0	59.6 \pm 2.8	0.5 \pm 4.2
				30	37.5 \pm 1.1	1.3 \pm 1.5	54.3 \pm 1.6	9.3 \pm 2.2
87	H	OCH ₃	H	10	39.9 \pm 2.1	-4.8 \pm 2.9	57.3 \pm 1.0	4.3 \pm 1.5
				30	33.3 \pm 1.8	12.6 \pm 2.1	50.8 \pm 0.8	15.2 \pm 0.9
88	H	H	OCH ₃	10	39.3 \pm 2.8	-3.0 \pm 3.0	54.8 \pm 0.6	8.4 \pm 1.2
				30	34.5 \pm 1.2	9.3 \pm 2.5	50.4 \pm 1.2	15.9 \pm 1.7
89	F	H	H	10	41.6 \pm 1.9	-9.2 \pm 2.8	57.1 \pm 1.0	4.6 \pm 1.2
				30	38.9 \pm 1.7	-2.1 \pm 1.9	54.1 \pm 0.4	9.7 \pm 0.8
90	H	F	H	10	39.3 \pm 2.6	-3.1 \pm 4.6	55.9 \pm 1.1	6.6 \pm 1.6
				30	36.1 \pm 2.0	5.1 \pm 5.1	54.7 \pm 1.9	8.7 \pm 2.8
91	H	H	F	10	39.8 \pm 2.8	-4.4 \pm 3.8	59.7 \pm 2.9	0.3 \pm 4.5
				30	38.6 \pm 1.8	-1.4 \pm 3.7	56.1 \pm 2.9	6.4 \pm 4.4
92	Cl	H	H	10	35.8 \pm 4.4	6.4 \pm 8.6	57.7 \pm 1.4	3.6 \pm 1.9
				30	34.3 \pm 2.4	9.9 \pm 3.6	53.8 \pm 3.9	10.2 \pm 6.1
93	H	Cl	H	10	37.8 \pm 2.1	0.9 \pm 1.0	56.2 \pm 1.9	6.2 \pm 2.7
				30	32.6 \pm 1.9	14.4 \pm 1.2	50.6 \pm 1.6	15.4 \pm 2.4
94	H	H	Cl	10	40.4 \pm 3.2	-6.0 \pm 6.3	57.8 \pm 1.7	3.5 \pm 2.4
				30	35.9 \pm 1.9	5.9 \pm 0.9	54.7 \pm 1.5	8.7 \pm 2.2
control					34.8 \pm 2.6		64.8 \pm 2.8	
95	NO ₂	H	H	10	38.4 \pm 2.9	-0.6 \pm 3.2	56.9 \pm 2.1	5.1 \pm 3.1
				30	36.7 \pm 2.7	4.0 \pm 3.3	53.2 \pm 2.9	11.2 \pm 4.4
96	H	NO ₂	H	10	39.5 \pm 2.5	-3.6 \pm 1.9	57.9 \pm 0.6	3.3 \pm 0.8
				30	37.7 \pm 0.8	0.9 \pm 2.6	55.8 \pm 2.4	6.8 \pm 3.7
97	H	H	NO ₂	10	37.6 \pm 4.9	2.0 \pm 8.7	56.9 \pm 2.0	4.8 \pm 3.0
				30	37.8 \pm 3.8	1.2 \pm 5.5	55.4 \pm 1.4	7.4 \pm 2.1
Mepacirne				10	29.0 \pm 1.5 *	23.7 \pm 3.5	50.0 \pm 2.4	16.6 \pm 2.9
				30	21.5 \pm 1.1 **	42.9 \pm 2.9	38.3 \pm 3.6 **	35.8 \pm 6.0
				100	2.3 \pm 0.7 **	93.7 \pm 1.9	6.5 \pm 1.3 **	88.8 \pm 2.3
IC ₅₀					42.0 \pm 3.5		50.2 \pm 4.5	

N=3 ; * P<0.05 , ** P<0.01 ; Mepacirne : positive control.

Table 29 The inhibitory effects of compound **109-123** on the mast cell degranulation (*in vitro*)

Inducer: Compound 48/80 (10 μ g/ml)

animal: Rat



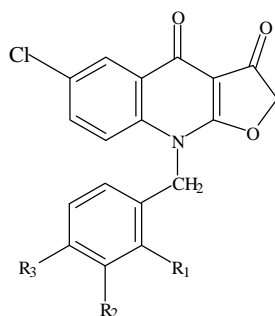
No.	R1	R2	R3	Conc. (μ M)	Percent Release			
					β -Glucuronidase	(% inh.)	Histamine	(% inh.)
control					36.5 \pm 1.4		69.5 \pm 0.7	
109	H	H	H	10	35.0 \pm 1.0	4.0 \pm 2.7	65.8 \pm 2.5	5.3 \pm 4.0
				30	34.3 \pm 0.6	5.4 \pm 5.6	67.1 \pm 1.2	3.4 \pm 1.4
110	CH ₃	H	H	10	37.5 \pm 1.6	-2.9 \pm 4.5	68.9 \pm 1.0	0.8 \pm 1.3
				30	37.0 \pm 1.3	-1.5 \pm 2.3	64.7 \pm 1.5	6.8 \pm 2.3
111	H	CH ₃	H	10	36.5 \pm 1.9	-0.1 \pm 4.5	68.8 \pm 1.2	0.9 \pm 2.0
				30	35.8 \pm 2.0	1.9 \pm 2.5	70.3 \pm 2.8	-1.1 \pm 3.5
112	H	H	CH ₃	10	40.1 \pm 1.6	-9.9 \pm 3.6	71.4 \pm 1.0	-2.7 \pm 2.1
				30	37.5 \pm 1.0	-3.3 \pm 7.4	72.3 \pm 0.8	-4.0 \pm 1.6
113	H	OCH ₃	H	10	36.3 \pm 2.2	0.6 \pm 3.2	66.9 \pm 1.8	3.6 \pm 2.6
				30	35.9 \pm 1.5	1.6 \pm 2.6	70.1 \pm 1.0	-0.9 \pm 1.0
114	H	H	OCH ₃	10	35.5 \pm 1.1	2.6 \pm 2.8	66.7 \pm 2.0	5.4 \pm 3.3
				30	34.3 \pm 1.7	6.1 \pm 1.7	66.1 \pm 1.6	4.8 \pm 2.3
115	F	H	H	10	37.6 \pm 1.9	-2.9 \pm 1.4	65.1 \pm 1.6	6.3 \pm 2.2
				30	34.5 \pm 1.2	5.4 \pm 2.0	63.4 \pm 1.8	8.8 \pm 2.4
116	H	F	H	10	36.8 \pm 2.4	-0.8 \pm 3.2	70.5 \pm 2.0	-1.5 \pm 3.0
				30	34.6 \pm 0.9	5.1 \pm 3.5	67.8 \pm 1.1	5.6 \pm 1.2
117	H	H	F	10	36.6 \pm 2.0	-0.1 \pm 2.5	67.8 \pm 1.7	2.3 \pm 2.5
				30	35.3 \pm 1.0	3.0 \pm 3.5	68.8 \pm 2.4	1.0 \pm 2.8
118	Cl	H	H	10	38.1 \pm 1.6	-4.7 \pm 5.7	76.4 \pm 0.9	-10.1 \pm 2.5
				30	37.3 \pm 1.2	-2.2 \pm 2.3	71.8 \pm 0.5	-3.4 \pm 1.9
119	H	Cl	H	10	38.2 \pm 1.9	-4.7 \pm 0.8	66.8 \pm 1.4	3.8 \pm 2.1
				30	37.7 \pm 2.3	-3.2 \pm 5.3	70.3 \pm 1.1	-1.3 \pm 2.5
120	H	H	Cl	10	35.1 \pm 2.3	4.0 \pm 1.2	65.1 \pm 0.4	6.3 \pm 1.4
				30	34.5 \pm 2.5	5.8 \pm 1.3	64.2 \pm 2.5	7.5 \pm 3.9
121	NO ₂	H	H	10	35.8 \pm 3.3	2.3 \pm 3.2	67.3 \pm 3.5	3.1 \pm 5.1
				30	37.8 \pm 2.2	-3.6 \pm 6.0	70.9 \pm 2.6	-2.2 \pm 3.8
122	H	NO ₂	H	10	36.7 \pm 2.1	-0.5 \pm 1.3	68.2 \pm 1.3	1.8 \pm 2.5
				30	36.3 \pm 2.4	0.9 \pm 1.0	69.9 \pm 2.1	-0.6 \pm 2.9
123	H	H	NO ₂	10	34.6 \pm 3.4	5.5 \pm 5.7	68.4 \pm 2.9	1.4 \pm 5.0
				30	37.2 \pm 2.4	-1.8 \pm 3.2	69.3 \pm 2.1	0.2 \pm 3.2
Mepacirne				10	27.8 \pm 1.5 *	23.7 \pm 3.5	57.9 \pm 2.4	16.6 \pm 2.9
				30	20.8 \pm 1.1 **	42.9 \pm 2.9	44.5 \pm 3.6 **	35.8 \pm 6.0
				100	2.4 \pm 0.7 **	93.7 \pm 1.9	7.7 \pm 1.3 **	88.8 \pm 2.3
IC ₅₀ (μ M)					42.0 \pm 3.5		50.2 \pm 4.5	

N=3 ; * P<0.05 , ** P<0.01 ; Mepacirne : postive control.

Table 30 The inhibitory effects of compound **139-153** on the mast cell degranulation (*in vitro*)

Inducer: Compound 48/80 (10 μ g/ml)

animal: Rat



No.	R1	R2	R3	Conc. (μ M)	Percent Release			
					β -Glucuronidase	(% inh.)	Histamine	(% inh.)
control					46.5 \pm 2.6		68.5 \pm 1.2	
139	H	H	H	10	46.2 \pm 2.5	0.4 \pm 0.4	70.1 \pm 1.8	-2.3 \pm 2.5
				30	43.8 \pm 3.6	5.8 \pm 2.3	68.6 \pm 4.4	0.1 \pm 4.6
140	CH ₃	H	H	10	44.1 \pm 2.8	1.2 \pm 1.6	67.4 \pm 1.3	1.7 \pm 0.9
				30	45.8 \pm 2.1	5.2 \pm 1.3	64.1 \pm 2.4	6.5 \pm 3.0
141	H	CH ₃	H	10	43.7 \pm 3.5	6.1 \pm 3.3	66.5 \pm 2.4	3.0 \pm 1.9
				30	40.4 \pm 2.7	13.2 \pm 2.7	62.2 \pm 2.8	9.2 \pm 2.8
142	H	H	CH ₃	10	45.5 \pm 3.2	2.2 \pm 2.2	67.2 \pm 4.4	2.0 \pm 5.3
				30	44.4 \pm 3.5	4.6 \pm 2.1	68.4 \pm 4.4	0.1 \pm 6.1
143	H	OCH ₃	H	10	43.7 \pm 2.8	6.1 \pm 0.7	65.5 \pm 4.0	4.4 \pm 4.9
				30	43.3 \pm 2.8	6.9 \pm 2.4	66.1 \pm 6.0	3.6 \pm 8.4
144	H	H	OCH ₃	10	45.2 \pm 3.2	2.8 \pm 2.2	66.5 \pm 4.2	3.0 \pm 4.5
				30	41.2 \pm 2.3	11.1 \pm 0.2	62.7 \pm 3.4	8.5 \pm 3.8
145	F	H	H	10	44.7 \pm 2.8	3.9 \pm 0.6	64.9 \pm 1.5	5.2 \pm 0.5
				30	44.4 \pm 4.4	5.0 \pm 3.9	64.3 \pm 3.2	6.1 \pm 3.0
146	H	F	H	10	44.0 \pm 2.3	5.1 \pm 0.4	67.9 \pm 2.4	0.9 \pm 2.5
				30	41.9 \pm 3.9	10.2 \pm 3.5	64.8 \pm 2.2	5.4 \pm 1.5
147	H	H	F	10	44.6 \pm 4.1	4.3 \pm 3.5	68.8 \pm 3.2	-0.3 \pm 3.1
				30	42.9 \pm 2.4	7.7 \pm 0.4	67.3 \pm 4.1	1.9 \pm 4.5
148	Cl	H	H	10	43.8 \pm 3.8	5.9 \pm 2.8	66.6 \pm 2.9	2.8 \pm 3.3
				30	44.0 \pm 3.2	5.3 \pm 3.6	66.1 \pm 3.3	3.5 \pm 3.6
149	H	Cl	H	10	45.0 \pm 3.3	3.2 \pm 1.6	66.7 \pm 1.5	2.6 \pm 1.1
				30	41.9 \pm 3.9	9.9 \pm 3.4	63.8 \pm 3.0	6.9 \pm 3.1
150	H	H	Cl	10	44.6 \pm 2.9	4.0 \pm 2.7	64.5 \pm 2.5	5.7 \pm 4.4
				30	43.8 \pm 2.8	5.6 \pm 2.6	65.0 \pm 2.3	5.1 \pm 3.3
151	NO ₂	H	H	10	43.5 \pm 2.0	6.0 \pm 3.8	65.6 \pm 0.5	4.2 \pm 1.5
				30	42.7 \pm 3.3	8.3 \pm 3.0	63.6 \pm 1.7	7.1 \pm 1.6
152	H	NO ₂	H	10	44.3 \pm 2.5	4.7 \pm 0.1	65.6 \pm 1.2	4.3 \pm 0.3
				30	42.1 \pm 1.7	9.3 \pm 1.9	63.9 \pm 1.1	6.7 \pm 0.1
153	H	H	NO ₂	10	44.9 \pm 2.9	3.2 \pm 2.6	65.9 \pm 1.2	3.9 \pm 1.3
				30	42.9 \pm 2.9	7.8 \pm 1.8	64.7 \pm 2.0	5.5 \pm 1.6
Mepacirne				10	35.4 \pm 1.5 *	23.7 \pm 3.5	55.6 \pm 2.4	16.6 \pm 2.9
				30	25.6 \pm 1.1 **	42.9 \pm 2.9	42.5 \pm 3.6 **	35.8 \pm 6.0
				100	2.7 \pm 0.7 **	93.7 \pm 1.9	7.2 \pm 1.3 **	88.8 \pm 2.3
IC ₅₀	(μ M)				42.0 \pm 3.5		50.2 \pm 4.5	

N=3 ; * P<0.05 , ** P<0.01 ; Mepacirne : postive control.