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Essential role of PI3-kinase and phospholipase A2 in Dictyostelium discoideum chemotaxis

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Table I. Chemotaxis data of all experiments

Number	Strain	Inhibitors					Chemotaxis (% positive response)				Chemotaxis (% positive response)			
		PI3K	PLC	PLA2	PLA2	Ca2+-upt	50 nM cAMP				1,000 nM cAMP			
		LY294002	U73122	BPB	Quinacrine	EGTA	Mean	SD	n	SEM	Mean	SD	n	SEM
1	AX3	-	-	-	-	-	73	15	9	5	96	4	9	1
2	AX3	+	-	-	-	-	13	10	7	4	78	24	7	9
3	AX3	-	+	-	-	-	86	10	6	4	100	0	6	0
4	AX3	-	-	+	-	-	18	3	6	1	85	6	6	2
5	AX3	-	-	-	+	-	24	15	6	6	74	22	6	9
6	AX3	-	-	-	-	+	71	2	6	1	93	6	6	2
7	AX3	+	+	-	-	-	68	10	3	6	81	17	3	10
8	AX3	+	-	+	-	-	6	11	7	4	26	17	7	6
9	AX3	+	-	-	+	-	12	14	6	6	22	5	6	2
10	AX3	+	-	-	-	+	88	17	3	10	96	5	3	3
11	AX3	-	+	+	-	-	66	22	4	11	81	15	4	8
12	AX3	-	+	-	+	-								
13	AX3	-	+	-	-	+	80	6	3	3	95	4	3	2
14	AX3	-	-	+	-	+	23	11	4	6	71	20	4	10
15	AX3	-	-	-	+	+								
16	AX3	+	+	+	-	-	11	3	3	2	2	6	3	3
17	AX3	+	+	-	+	-	2	0	3	0	2	0	3	0
18	AX3	+	+	-	-	+	68	2	3	1	73	9	3	5
19	AX3	+	-	+	-	+	25	8	6	3	31	22	6	9
20	AX3	+	-	-	+	+								
21	AX3	-	+	+	-	+	65	11	4	6	80	4	4	2
22	AX3	-	+	-	+	+								
23	AX3	+	+	+	-	+	10	8	4	4	23	10	4	5
24	AX3	+	+	-	+	+	18	20	4	10	23	32	4	16
25	<i>pi3k</i> -null	-	-	-	-	-	50	35	10	11	80	24	10	8
26	<i>pi3k</i> -null	-	+	-	-	-	24	16	3	9	73	18	3	10
27	<i>pi3k</i> -null	-	-	+	-	-	8	6	4	3	23	6	4	3
28	<i>pi3k</i> -null	-	-	-	+	-	13	3	4	2	16	8	4	4
29	<i>pi3k</i> -null	-	-	-	-	+	56	20	4	10	83	20	4	10

30	<i>pi3k</i> -null	-	+	+	-	-		2	7	4	4	2	7	4	4
31	<i>pi3k</i> -null	-	+	-	+	-									
32	<i>pi3k</i> -null	-	+	-	-	+		39	9	3	5	71	4	3	2
33	<i>pi3k</i> -null	-	-	+	-	+		20	6	3	3	30	6	3	3
34	<i>pi3k</i> -null	-	-	-	+	+		0	0	3	0	6	9	3	5
35	<i>pi3k</i> -null	-	+	+	-	+		2	7	4	4	2	7	4	4
36	<i>pi3k</i> -null	-	+	-	+	+									
37	<i>plc</i> -null	-	-	-	-	-		70	16	9	5	95	8	9	3
38	<i>plc</i> -null	+	-	-	-	-		82	5	6	2	95	7	6	3
39	<i>plc</i> -null	-	-	+	-	-		3	3	3	2	26	14	3	8
40	<i>plc</i> -null	-	-	-	+	-		5	7	3	4	14	20	3	12
41	<i>plc</i> -null	-	-	-	-	+		53	10	3	6	85	12	3	7
42	<i>plc</i> -null	+	-	+	-	-		2	7	4	4	3	3	4	2
43	<i>plc</i> -null	+	-	-	+	-									
44	<i>plc</i> -null	+	-	-	-	+		49	5	3	3	90	9	3	5
45	<i>plc</i> -null	-	-	+	-	+		2	4	4	2	48	21	4	11
46	<i>plc</i> -null	-	-	-	+	+									
47	<i>plc</i> -null	+	-	+	-	+		2	7	4	4	19	6	4	3
48	<i>plc</i> -null	+	-	-	+	+									
49	<i>iplA</i> -null	-	-	-	-	-		80	10	8	4	95	6	8	2
50	<i>iplA</i> -null	+	-	-	-	-		7	5	4	3	12	12	4	6
51	<i>iplA</i> -null	-	+	-	-	-		24	16	3	9	73	19	3	11
52	<i>iplA</i> -null	-	-	+	-	-		43	8	6	3	92	6	6	2
53	<i>iplA</i> -null	-	-	-	+	-		30	27	3	16	92	7	3	4
54	<i>iplA</i> -null	-	-	-	-	+		80	8	3	5	97	3	3	2
55	<i>iplA</i> -null	+	+	-	-	-		Not determined, LY294002 already induced a severe reduction of chemotaxis							
56	<i>iplA</i> -null	+	-	+	-	-		Not determined, LY294002 already induced a severe reduction of chemotaxis							
57	<i>iplA</i> -null	+	-	-	+	-		Not determined, LY294002 already induced a severe reduction of chemotaxis							

58	iplA-null	+	-	-	-	+	Not determined, LY294002 already induced a severe reduction of chemotaxis							
59	iplA-null	-	+	+	-	-	12	10	3	6	58	35	3	20
60	iplA-null	-	+	-	+	-								
61	iplA-null	-	+	-	-	+	9	5	4	3	12	3	4	2
62	iplA-null	-	-	+	-	+	51	8	4	4	85	7	4	4
63	iplA-null	-	-	-	+	+								
64	iplA-null	+	+	+	-	-	8	4	4	2	17	5	4	3
65	iplA-null	+	+	-	+	-								
66	iplA-null	+	+	-	-	+	0	0	3	0	0	0	3	0
67	iplA-null	+	-	+	-	+	2	6	3	3	2	6	3	3
68	iplA-null	+	-	-	+	+								
69	iplA-null	-	+	+	-	+	13	0	2	0	12	0	2	0
70	iplA-null	-	+	-	+	+								
71	iplA-null	+	+	+	-	+	2	7	4	4	2	7	4	4
72	iplA-null	+	+	-	+	+								

■ Data with BPB and Quinacrine (line below) combined.

Chemotaxis data of ~70 conditions with different combinations of cell stains and inhibitors obtained with the small population assay. Data in bold refer to data presented in Figs. 2 and 4.