Table III Intra- and Intercellular Localization of Enzymes in the Mesophyll Cell and Bundle Sheath Cell of C_4 Plants

	MC/BSC enzyme activity: μmol hour^{-1} (mg Chl)$^{-1}$		
	NADP-ME type *Zea mays*	PEP-CK type *Panicum maximum* (*Urochloa panicoides*)	NAD-ME type *Eleusine indica* (*Panicum miliaceum*)
C_4 pathway			
Carbonic anhydrase[a,b]	98/2	(98/2)[c]	(93/7)
PEP carboxylase[c,e]	864/14	2590/3	2400/10
Pyruvate,Pi dikinase[b]	188/15	(66/1)	82/1
Adenylate kinase[a,f]	56/10		
Pyrophosphatase[a,f]	49/16		
NADP-malate dehydrogenase[b,d]	805/<1	72/25	175/51
NADP-malic enzyme[b,d]	<1/1690	<1/85	7/28
PEP carboxykinase[d]	<1/<1	<1/542	<1/1
NAD-malic enzyme[d]	<1/126	62/263	11/554
Aspartate aminotransferase[d]	324/70	(1150/753)	1400/205
Alanine aminotransferase[d]	33/53	(612/335)	942/579
PCR cycle			
RuBP carboxylase[b,d]	<1/389	4/249	1/395
Phosphoribulokinase[b,d]	<1/2940	(75/1310)	24/2450
Phosphoriboisomerase[d]	75/1500		
PGA kinase[d]	1290/2450	(2110/701)	2350/1090
NADP-triose-P dehydrogenase[b,d]	705/1400	(240/457)	250/477
Triose-P isomerase[b]	526/545	(277/481)	209/813
Photorespiratory glycolate pathway			
Glycolate oxidase[b]	1.2/10	(1/26)	1.2/22
Hydroxypyruvate reductase[b]	20/184	(15/330)	40/526
Catalase ($\times 10^{-3}$)[b]	9/60	(11/46)	11/60
Glycerate kinase[d]	7.5/<1		(22/2)
Others (sucrose synthesis, glycolysis, oxidative pentose-P pathway, respiration)			
UDPG pyrophosphorylase[g]	797/285		(392/443)
Sucrose-P synthase[g]	56/3.2		
Phosphoglyceromutase[b]	160/23	95/35	150/115
Enolase[b]	203/18	181/100	174/95
Glucose-6-P dehydrogenase[d]	20/9	(37/18)	(24/34)
6-Phosphogluconate dehydrogenase[b]	10/8	(28/18)	11/38
Cytochrome oxidase[b]	33/146	(78/149)	46/117

For values listed as <1, the activity was less than 1 or not detectable.
[a] Relative value.
[b] Ku and Edwards, 1975.
[c] R. Kanai, unpublished results.
[d] Kanai and Edwards, 1973a.
[e] Gutierrez *et al.*, 1974a.
[f] Slack *et al.*, 1969.
[g] Usuda and Edwards, 1980a.

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