Table 1.--Pteridine Accumulations Controlled by Various Alleles at the White Locus

	+ aRM A58K11 a58112 mR7aH1 m^4 m^4w r,dup	Bwx 1* bf 2 bf^2 e 4 e^2 4 ch 4	sat 2 crr a 3 a^2 3 a^4 3	col 2 sp-w 5 sp $sp\text{-}w^4$ a^3 3 co 3	bl	cf cp	i h 4 "a"59e15	w 4 17G2 57 r,def t	11E4	ec^3
Drosopterins	++++	-	(+)	(+)	-	++	-	-	(+)	+
Isoxanthopterin	+++	(+)	+	(+)	+	+	-	-	-	-
Xanthopterin	+++	-	(+)	+	+	(+)	-	-	-	-
Blue-violet	++	-	-	-	(+)	-	-	-	-	-
Sepiapteridine	++	(+)	++	+++	(+)	++	-	-	-	-
2-amino-4-hydroxypteridine	+++	-	-	-	-	-	-	-	-	(+)
Biopterin	+++	(+)	++	+++	+++	++	(+)	-	-	-
	I	II	III	IV	V	VI	VII	VIII	IX	X

*Recombination site (Judd, Genetics, 1964)

++++ very large amount
+++ large amount
++ moderate amount
+ small amount
(+) trace amount
- none

Ritossa, F. M. and P. Cammarano. Oak Ridge National Laboratory, Tenn. Isolation and properties of ribosomes from D. melanogaster.

D. melanogaster larvae were homogenized in an all-glass apparatus with two volumes of a medium containing 0.05M Tris pH 7.6, 0.025M KCL, 0.005M 2-mercaptoethanol, 0.25M sucrose; when present, Mg^{++} was either 0.1 or 5mM. The homogenate was centrifuged 20 min. at 20,000 x g, and the resulting postmitochondrial supernatant was further centrifuged at 105,000 x g for 90 min. The material sedimenting at 105,000 x g was resuspended in the homogenization medium and immediately used for analysis in a 10%-34% sucrose density gradient. At times, sodium deoxycholate (1.2%) was added to the postmitochondrial supernatant; in this case, the material sedimented at 105,000 x g was resuspended in the above medium and recentrifuged at 105,000 x g for 90 min. Occasionally homogenization was performed by grinding the tissue under liquid nitrogen; the resulting powder was resuspended in the homogenization medium and processed as above. Isolation of the particles in the medium containing 5mM Mg^{++} led to the appearance of a heavy peak of approximately 170 S (fig. 1A). Treatment of the isolated material with amounts of ribonuclease which are known to result in selective breakage of the interribosomal RNA (10 mμg/mg of RNA) in a variety of materials did not alter the sedimentation profile of this peak. The same sedimentation profile was observed when DOC was used during the isolation procedure.

Centrifugation of the same preparations in a sucrose density gradient in the absence of Mg^{++} results in the resolution of a minor protein component uniformly spread throughout the gradient and a sharp peak sedimenting in the region pertaining to particles of sedimentation constant 80-83 (fig. 1A); this peak showed a 280/260 ratio typical of ribonucleoprotein particles (0.54). No evidence existed for the appearance of subunits of the main peak component comparable to the 50 S and 30 S subunits described in other organisms. The extent of these phenomena was not influenced by either changes in the homogenization conditions or by the use

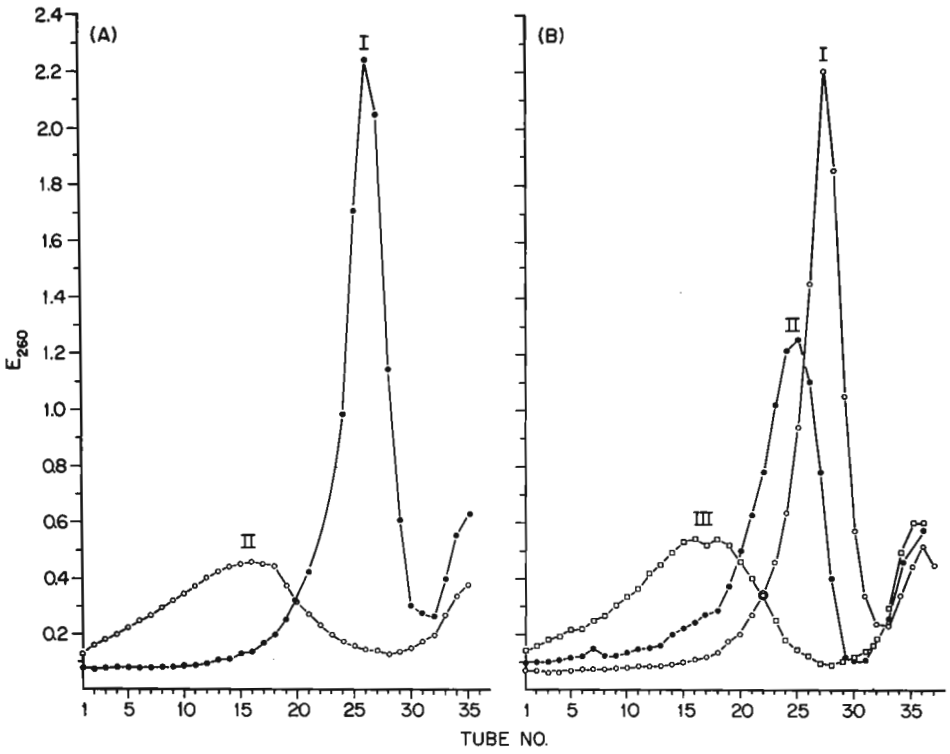

Fig. 1: (A) Sucrose density gradient profiles of ribosomes isolated in the absence of Mg^{++} (peak I) and in the presence of Mg^{++} (5mM) (peak II). Ribosomes obtained in the presence of Mg^{++} 0.1mM were centrifuged in a 10-34% linear sucrose gradient buffered with the isolation medium, except $MgAc_2$ was omitted (peak I). Ribosomes obtained in the presence of Mg^{++} (5mM) were centrifuged in a similar gradient including 5mM Mg^{++} (peak II).
(B) Sucrose density gradient profiles of ribosomes isolated in the absence of Mg^{++} but centrifuged in sucrose density gradient containing either 0.5mM Mg^{++} (peak II) or 5mM Mg^{++} (peak III). Ribosomes represented in peak I were centrifuged in a sucrose density gradient without Mg^{++}.

of deoxycholate during the isolation procedure. In addition, replacement of Mg with Ca ions at identical concentration did not alter the picture nor lead to the appearance of polysomal peaks although the contrary has been reported. In other experiments, the particles were isolated in the presence of 0.1mM Mg and analyzed in sucrose density gradients of different Mg concentrations. The increase of Mg content in the sucrose gradient from 0.1 to 5mM led to progressive aggregation of the 80 S particles to form the heavy sedimenting peak seen in particles isolated in the presence of 5mM Mg, showing that partial aggregation of the monomeric particles occurred already in the presence of 0.1mM Mg concentration (fig. 1B). It may be noted that the 80 S component isolated from the corresponding region of the sucrose density gradient failed to reaggregate when subsequently centrifuged in a gradient containing 5mM Mg.

The foregoing results indicate that in larvae of D. melanogaster isolation conditions similar to those extensively employed for isolation of polysomes in a variety of organisms lead to the appearance of only one heavy sedimenting peak, resulting perhaps from the non-specific binding of individual ribosomes with a, so far, undefined protein component in the presence of high magnesium concentration.

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