Table 1 shows the frequencies of the *Rh* phenotypes and chromosomes found in 113 samples. For the calculation of the chromosomes we assumed that the phenotype *Dcce* is the expression of *dce/Dcei*, since the chromosome *Dce* is rare in pure Indians and since no Negro genes were found in this population: *Js(a–)*, hæmoglobins *S* and *C* were negative, and the gene *B* (0·44 per cent) was lower than A_1 (1·34 per cent).

Table 1. *Rh* Frequency in Ica Tribe using Anti-*D*, Anti-*C*, Anti-*c*, Anti-*E* and Anti-*e*

Phenotypes	Genotypes	No. observed	Frequency observed	Frequency expected	$\chi^2 \left(\frac{\text{Obs.}-\text{exp.}}{\text{Exp.}}\right)^2$
DCCEE	*DCE/DCE*	0·00	0·00	0·00	—
DCCEe	*DCE/DCe*	0·00	0·00	0·00	—
DCCee	*DCe/DCe*	46·00	40·71	36·75	0·43
DCcE	*DCE/Dcei*	0·00	0·00	0·00	—
	DCE/DcE				
DCcEe	*DCe/DcE*	10·00	8·85	13·39	1·53
DCce	*DCe/dce*	35·00	30·97	34·35	0·33
	DCe/Dcei				
DccE	*DcE/DcE*	5·00	4·42	5·66	0·25
	DcE/Dcei				
DcceE	*DcE/Dce*	5·00	4·42	1·81	
Dcce	*dce/Dcei*	5·00	4·42	3·31	0·44
ddccee	*dce/dce*	1·00	0·89	0·68	
Dccei ei	*Dcei/Dcei*	6·00	5·31	4·04	0·40
Total		113·00	99·99	99·99	3·38

$0{\cdot}70 > P > 0{\cdot}50^{n=5}$

Chromosomes (per cent)

DCe	60·62
DcE	11·05
dce	8·22
Dcei	20·11

The peculiar distribution of the chromosome *Dceif* among the Chibcha tribes studied is rather surprising. Whereas it occurs in a relatively high frequency among the Ica (20 per cent), the phenotype which identified this chromosome was absent in the two other tribes (Tunebo and Paez) of the same linguistic affiliation (Layrisse, M., Layrisse, Z., and Wilbert, J.).

Since not more than 10 South American Indian tribes have been tested with both anti-*E* and anti-*e*, we shall have to wait for further results before any statement concerning the frequency of the new chromosome in the autochthonous population of the New World can be advanced.

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HISTOCHEMISTRY

Direct Relationship of Phosphorylase and Mitochondrial α-Glycerophosphate Dehydrogenase Activity in Skeletal Muscle

Previous work[1] showed that in mammalian and avian muscle fibres there was a reciprocal relationship between phosphorylase and the oxidative enzymes, as shown by histochemical techniques. Two groups of fibres were described. In the histologically larger group, there was high phosphorylase activity and low activity of oxidative enzymes. (These included succinate, lactate, malate, isocitrate, β-hydroxybutyrate, alcohol and glutamate dehydrogenases, and also the DPN-linked α-glycerophosphate dehydrogenase.) In the group of histologically smaller fibres the converse activities were present.

With the development of a histochemical technique capable of demonstrating the purely mitochondrial α-glycerophosphate dehydrogenase[2], which is not linked with coenzyme, its localization in muscle has become possible. The enzyme is found to be strongly concentrated in the group of larger fibres. Activity in the smaller fibres is weak or absent. Mitochondrial α-glycerophosphate dehydrogenase activity thus runs parallel with phosphorylase activity, unlike all other oxidative enzyme systems so far tested.

Since the non-mitochondrial α-glycerophosphate dehydrogenase is strongest in the group of smaller fibres, the present findings do not fully support the concept that an α-glycerophosphate cycle[3] is an important metabolic pathway in the larger fibres. They do, however, fit the supposition that dihydroxyacetone phosphate, produced by α-glycerophosphate dehydrogenase activity, could enter the Embden–Meyerhof pathway at the level of triosephosphate isomerase. They provide further support for the thesis that the two types of muscle fibre rely substantially on different metabolic pathways in obtaining their supplies of energy for muscular contraction.

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HISTOLOGY

Deoxyribonucleic Acid Content of Nuclei dividing amitotically

The presence of a rather high percentage of binucleated cells in the rat epididymis, especially in the body and tail, is well known[1–3]. The two nuclei, which are approximately equal in volume, arise by amitotic division, as judged by the complete series of morphological stages which can be traced from a small radial fold in the nucleus to its complete subdivision by a furrow. The nuclei remain in close contact with one another, usually with their apposed surfaces flattened.

It is now known that cells about to divide mitotically have twice the deoxyribonucleic acid (DNA) content of resting, undividing cells and that binucleate