

TABLE I
Changes in postjunctional morphology during postnatal development

Junctional morphology in EDL muscles was evaluated at several times during the first 2 postnatal weeks. The morphology of the postjunctional membrane was quantified by measuring the lengths of total pjm and of thickened pjm, and normalizing these to the length of the midline of the primary cleft. The resulting ratio of lengths "total pjm to 1° cleft midline" is a measure of the extent of postjunctional membrane folding. The ratio "thickened pjm to 1° cleft midline" is a measure of the relative amount of junctional surface area which is specialized thickened membrane. By dividing the two ratios, one can determine the proportion of the total pjm which is specialized at each age (52 to 58% between days 1 and 7, and gradually falling thereafter to the adult value of ~30%). For most ages, >800 μm length of 1° cleft were analyzed (from 20 to 50 separate endplates); in these cases, the table gives the mean and standard error of the ratios obtained for the several muscle samples. For some ages, fewer total endplates were analyzed, and only the overall ratio is given without the error.

Total counts of coated vesicles within 1 μm of the 1° cleft were normalized by dividing by the volume of subjunctional tissue analyzed. Since most of the coated vesicles analyzed were actually lying very close to the pjm, the concentration of coated vesicles was considerably higher immediately under the junctional membrane and fell off sharply with distance from the pjm.

Strain and Age	Total Length of 1° Cleft Analyzed (μm)	Ratio of Lengths		No. of Coated Vesicles/ μm^3 under the Junction ^a
		Total pjm to 1° Cleft Midline	Thickened pjm to 1° Cleft Midline	
129/ReJ				
1 day (4) ^b	826.2	1.14 \pm 0.006	0.58 \pm 0.05	4.2 \pm 0.29 ^c
3 days (4)	1119.3	1.24 \pm 0.04	0.69 \pm 0.03	3.4 \pm 0.23
5 days (3)	1080.6	1.23 \pm 0.05	0.67 \pm 0.02	1.4 \pm 0.07 ^c
7 days (2)	134.1	1.94	0.86	1.9
14 days (4)	1097.0	2.03 \pm 0.07	0.73 \pm 0.06	1.1 \pm 0.17
15 days (3)	148.1	2.25	0.87	1.1
Adult (5)	967.9	4.40 \pm 0.33	1.30 \pm 0.05	0.9 \pm 0.05
Albino				
2 days (2)	358.0		0.63	2.0
Adult (2)	120.1	4.82	1.24	

^a Cubic micrometers were determined by multiplying the surface area of autoradiograms tabulated by the thickness of the section.

^b Numbers in parentheses indicate the number of muscles sampled.

^c Significantly different from each other ($p < 0.001$) by two-tailed t test.