

Subcellular distribution of rat brain cortex high-affinity, sodium-dependent, glycine transport sites

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The subcellular distribution of the membrane components, present in rat brain cortex homogenates, that interact with glycine in the presence of sodium ions was studied. The distribution in the primary fractions, as per cent of total binding in the homogenate, was: P1 ('nuclear'), 58%; P2 (large granule), 39%; P3 (microsomal), 2%. Of the subfractions obtained by centrifuging P1 in a linear 0.32-1.5 M sucrose gradient, only the lighter fraction (P1-III) formed by large myelin fragments was enriched in specific binding activity with respect to P1. The pellet formed by purified nuclei had negligible binding, and fractions of intermediate density had a lower activity than P1. Transient exposure of P1-III to 1.5 M sucrose did not diminish its binding ability. Similarly, in the subfractions obtained by centrifuging P1 in a discontinuous sucrose gradient, only the least dense one, P1-A, that is formed exclusively by large myelin fragments, was enriched with respect to P1. The electron microscop