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# Compartmentation of glutamic acid metabolism in brain slices / Donald D. Clarke and Soll Berl Columbia Univ. School of Medicine, N. Y. C.

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COMPARTMENTATION OF GLUTAMIC ACID METABOLISM IN  
BRAIN SLICES. Donald D. Clarke and Soll Berl  
Columbia Univ. School of Medicine, N. Y. C.

The presence, in brain, of metabolic pools of glutamic acid have been demonstrated in vivo but not in tissue slices. Brain tissue slices prepared in the cold in Ringer's-bicarbonate containing 1% glucose and stored in an ice bath do not show compartmentation when incubated at 37° (10-20 min.) in a similar medium which contains tracer quantities of C<sup>14</sup>aspartic acid, U.l.; the specific activity of glutamine remains considerably below that of glutamic acid. If such tissue slices are pre-incubated at 37° for 10 min. and then transferred to fresh medium containing radioactive tracer, after 10 min. at 37°, the specific activity of glutamine is significantly higher than that of glutamic acid. Such compartmentation can also be demonstrated if the tissue slices are prepared and maintained at room temp. rather than at 0°C. The specific activities of  $\gamma$ -aminobutyric acid and glutathione (glutamic acid) relative to that of glutamic acid are also greater in the pre-incubated slices which are transferred to fresh medium. (Supported by grants from N.I.G.M.S. and N.I.N.D.B.)