At present, there is some uncertainty about whether the isotopic composition of the hydrogen in prey and predators can be used to follow food chains, but similar criticism may also be applied to the use of carbon or nitrogen isotopes in analogous studies. DeNiro and Epstein specifically criticize (*4*) that "the D/H ratios of the organically bonded hydrogen of animal tissues must depend on the relative abundances of the numerous chemical components that constitute them, since these components can have different D/H ratios." Biochemical fractions, that is, lipids, proteins, and carbohydrates, not only have different hydrogen isotope ratios but also different carbon and nitrogen isotope ratios (*6, 7*). Different tissues from mice fed a single diet may have a difference of 5 per mil in their carbon isotopic compositions (*6*). The symmetry between the results found for snails and their known food source and the results for mice and their known food source indicates that the isotopic composition of the hydrogen in the diet is at least a very important factor controlling the hydrogen isotopic composition in the predator.

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Angiotensin II Binding Sites in Rat Brain

We here point out that the report by Landas *et al.* (*1*) does not represent the first direct evidence of angiotensin II receptors in the organum vasculosum of the lamina terminalis (OVLT) of the rat brain. Using a quantitative light microscope radioautographic approach we observed previously (*2*) that blood-borne ^{125}I-labeled angiotensin II binds to specific sites in all of the circumventricular organs of the brain, including the OVLT. The specificity of angiotensin II binding sites was established by means of competitive binding studies in vivo showing quantitatively that angiotensin II antagonists blocked the binding of ^{125}I-angiotensin II to the OVLT, whereas competition with a structurally dissimilar peptide was ineffective. We have also observed (*3*) that specific binding sites for blood-borne angiotensin II are concentrated within the neuropil about the capillary plexus of the OVLT. Landas *et al.* (*1*) observed that CSF-borne angiotensin II binds to sites along the ventricular surface of the brain adjacent to the OVLT. These combined observations provide evidence for the existence of two anatomically distinct populations of angiotensin II receptors in the OVLT. We bring these facts to light to reemphasize that topographic differences in circumventricular angiotensin II receptors may be the basis for differential effects of angiotensin II on brain function, particularly when angiotensin II is administered to the brain by anatomically different routes.

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Our report (*1*) appeared independently and in the same year as that of van Houten *et al.* (*2*). Both studies support the hypothesis that we proposed over 5 years ago, that the organum vasculosum lamina terminalis (OVLT) is a receptor site for angiotensin II (Ang II) with receptors on the blood side and on the ventricular side, whereas the subfornical organ contains receptors to blood-borne angiotensin II only (*3*). Their autoradiographic study, however, is not direct evidence of angiotensin II receptors but of angiotensin II binding, since they did not provide evidence of any biological response. In our study, we tested both the biological response and binding. Animals responded to intraventricularly administered fluorescein isothiocyanate-labeled angiotensin II by drinking. The brains were rapidly removed, frozen, and cut to reveal that the site of fluorescent binding was exclusively on the OVLT. In addition to this study, we have accumulated the following evidence to support the hypothesis. We showed that microiontophoretic application of angiotensin II excited cells in the OVLT of anesthetized rats (*4*) and in brain slices from unanesthetized rats (*5*). Blocking access to the OVLT by a ventricular plug abolished the response to intraventricularly administered angiotensin II (*6*) but not intravenously administered angiotensin II (*7*). Very low doses of angiotensin II applied directly to the OVLT produced drinking and pressor responses (*8*). In carefully dissected OVLT and subfornical organ tissue, we showed higher binding levels for angiotensin II in both organs compared to the cortex and an increased level of binding in the OVLT of hypertensive rats (*9*). Therefore, we can add the data of the autoradiography to the list of different results from other laboratories which supports the idea of the OVLT as a specialized receptor area for blood-borne and CSF-borne angiotensin II.

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