

Tsai, J. H.J. and H. Tsai. Localization of Neurospora
ornithine aminotransferase in mitochondria.

Fed. Proc. 30: 1238; Tsai and Tsai 1972 Z. Physiol. Chim. 353: 1573). The subcellular location of this enzyme in Neurospora is not known. Recently there were some indications in the literature (e.g., 1972 Science 178: 840; 1972 Neurospora Newsl. 19:

Ornithine aminotransferase (OAT) (EC 2.6. 1. 13) occurs widely. In mammalian tissues this enzyme is exclusively localized in the mitochondrial matrix (Peraino and Pitot 1963 Biochim. Biophys. Acta 73: 222; Gamble and Lehninger 1971

12), suggesting that the *Neurospora* OAT is "non-mitochondrial". The results reported in this communication, however, show that the enzyme is present in the freshly prepared mitochondria of *Neurospora*.

Table 1. Localization of ornithine aminotransferase in mitochondria.

Ept.	No.	Preparation	OAT activity (mg/ml)
I		Purified mitochondria suspension (32 mg/ml AMT-sucrose)	232
II		Post-mitochondrial supernatant *	69
III		Mitochondrial pellet, resuspended • *	212

- Same as Exp. I, but mitochondria removed by centrifugation at 1200 x g for 10 min. ** Mitochondrial pellet from Exp. II was resuspended in the same volume of AMT-sucrose.

observed that OAT in the *Neurospora* mitochondria is very unstable, in the sense that it loses more than 50% of the initial activity during overnight storage at 5°C. Whereas the present results are consistent with those obtained from mammalian systems, the question whether the OAT activity observed in the cytoplasmic fraction of *Neurospora* is authentic or is an artifact due to the leakage from mitochondria has not been examined.

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The wild-type *N. crassa* (strain Em 5256) was used in these experiments. The mitochondria were isolated and purified by the procedure described elsewhere (Küntzel and Schäfer 1971 Nature New Biol. 231:265). The purified mitochondria were suspended in AMT-sucrose, which is composed of 0.44 M sucrose containing 100 mM NH₄Cl, 10 mM MgCl₂ and 10 mM Tris-HCl (pH 7.5). The assay of OAT was performed according to Jenkins and Tsai (1970 Methods in Enzymology 17A:281), except that 10 µg of Lubrol WX were included in the assay mixture (final volume = 1.0 ml).

As shown in Table 1, the OAT activity co-sedimented with mitochondria when it was centrifuged in AMT-sucrose at 12,000 x g for 10 min. In these studies, we have also