

Fructose-1, 6-bisphosphatase in stage VI frog oocytes: Evidence for an active enzyme in vivo

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The characterization of fructose-1, 6-bisphosphatase in stage VI oocytes from the frog *Caudiverbera caudiverbera*, as well as the in vivo activity, is reported. The enzyme has a subunit molecular weight of approximately 43, 500, has an apparent K_m value of 17 μ M for fructose-1, 6-bisP, and is inhibited by substrate concentrations beyond 100 μ M. AMP and fructose-2, 6-bisP are strong inhibitors of oocyte fructose-1, 6-bisphosphatase activity with K_i values of 9 and 2 μ M respectively. Inhibition by AMP is cooperative with a n_H value of 2.2. In vivo fructose-1, 6-bisphosphatase activity was demonstrated by microinjection of [U- 14 C]- or [6- 32 P]fructose-1, 6-bisP and subsequent chromatographic separation and identification of labeled products. The relevance of these findings for the metabolism of glucose in frog oocytes is discussed. © 1995 Academic Press, Inc.