

## عنوان مقاله:

Activity of mercaptopyruvate sulphurtransferase in different tissues of the genus Barbus (B. sharpeyi, B. grypus, B. xanthopterus and B. barbulus)

## محل انتشار:

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## خلاصه مقاله:

Cyanide is one of the most hazardous environmental pollution that its level has been increased in aquatic environment due to use of fertilizers, effluent from industries and sewage disposal. The exposure of fishes to cyanide ions above  $20 \mu\text{g/L}$  can induce high rate of mortality. Mercaptopyruvate sulphur transferase (MPST) is an important cytosolic cyanide detoxifying enzymes in vertebrates that its property has not been fully characterized in a wide variety of fish species. The purpose of this study was to determine the tissue distribution of MPST in different tissues of four native Barbus species including Barbus sharpeyi, Barbus grypus, Barbus xanthopterus and Barbus barbulus. Six specimens from each species with the length of  $32.5 \pm 6.5$  and weight of  $440 \pm 110$  were collected from five major regions of the Karun River including Gotvand, Shushtar, Mollasani, Darkhoine and Ahvaz. MPST was assayed by the method of Taniguchi and Kimura in the liver, kidney, gill and intestine. The highest activity of MPST was observed in the liver and gill, followed by the intestine and kidney. Specific activities of MPST (U/mg protein) in different tissues were 0.129 to 0.228 in the liver, 0.116 to 0.187 in the gill, 0.087 to 0.141 in the intestine, and 0.076 to 0.123 in the kidney in the studied species. The presence of MPST in the tissues of these Barbus species is an indication of high cyanide detoxifying mechanism, a protective and possible physiological mechanism for their survival in their environment.

## کلمات کلیدی:

Mercaptopyruvate sulphurtransferase, Tissue distribution, Barbus, Karun River

## لینک ثابت مقاله در پایگاه سیویلیکا:

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