

## Comparison of acute toxicity ( $LC_{50}$ ) of chemical and biosynthetic by *Sargassum angustifolium* nanosilvers in Asian sea bass (*Lates calcarifer*)

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### Abstract

This study was aimed to biosynthesis of silver nanoparticles using the seaweeds, *Sargassum angustifolium* and Comparison of acute toxicity ( $LC_{50}$ ) of commercial silver nanoparticles and biosynthetic nanoparticles performed by seaweed *Sargassum angustifolium* in Asian sea bass (*Lates calcarifer*) in ۱۳۹۷ in Ahvaz. After preparing extracts from *Sargassum* and biosynthesize the silver nanoparticles by adding silver nitrate to algae, some features and characterize of silver nanoparticles was determined. Then acute toxicity ( $96h$   $LD_{50}$ ) were calculated according OECD standard method (۱۹۹۸) to determine toxicity of biosynthetic and chemical silver nanoparticles. The  $96h$   $LD_{50}$  of chemical and biosynthetic nanosilvers were calculated as ۱,۵۶ and ۱۹,۶۶ respectively. It can be concluded that chemical nanosilvers are more toxic (۱۳ times) than biosynthetic nanosilvers. biosunthetic nanosilvers didn't induce any change in these parameters. Then biosunthetic silver nanoparticles have grate superiority over chemical nanosilvers.

**Keywords:** *Sargassum angustifolium*, Asian sea bass, Silvern nanoparticles, bisynthesis Toxicity,  $LC_{50}$ .