ABSTRACT

VALIDATION METHOD OF TLC- DENSITOMETRY METHOD FOR HISTAMIN ASSAY IN TONGKOL FISH *Euthynnus affinis* WITH NINHIDRIN REAGENT

Daniar Triasmega

Histamin food poisoning is found to be associated with consumption of scombroid fish containing unusually high levels of histamin. In particular, storage temperature, handling practices, presence of microbial populations with decarboxylase activity and availability of free amino acids are considered the most important factors affecting the production of histamine in raw seafood. The aims of the research to conduct validation method assay of histamin in Tongkol fish using TLC – densitometry. Sample was extracted by metanol – HCl 0.1 N. Histamin was separated using silica gel GF 254 plate and metanol – ammonia 50:50 as mobile phase. The spots were sprayed with ninhydrin. The linearity of the histamin estimation using this method was good within the range from 120 to 400 ppm of histamin (r=0.9994). Recovery and precission of this method was good with the percent of recovery was (102.60± 5.79) %. Limit of detection of this method was 1.28 ppm more sensitive than a guidance level of histamin in scromboid fish by FDA (50 ppm). Histamin levels in fish sample was found (4.61 ± 0.48) mg/100g and histamin levels in fish sample after was storaged at 8˚C for 7 hours was found (28,49 ± 1,21) mg/100g . Moreover, this method was simple, rapid, sensitive and reproducible. Therefore this method is suitable for monitoring histamin in multiple fish and fishery products simultaneously.

Keyword : Histamin, *Euthynnus affinis*, Validation method, TLC-Densitometry, Ninhydrin