

# Salmonella population in waste water treatment installation (IPAK) at Pulo Gebang DKI Jakarta P-2

Sri Budiarti, Iman Rusmana

### Abstrak

Demam tifoid dan gastroenteritis yang disebabkan oleh genus Salmonella merupakan masalah kesehatan sedunia. Serogrup bakteri tersebut dapat digunakan sebagai indikator keamanan makanan dan air dari suatu negara. Di Indonesia khususnya DKI Jakarta, tempat pengelolaan limbah (IPAK) berfungsi sebagai kontrol lingkungan. Salmonella telah diisolasi dari IPAK dengan menggunakan medium agar Salmonella Shigella. Populasi Salmonella menurun sampai 52,9% dari limbah air sampai limbah padat. Pemeriksaan resistensi antibiotik dilakukan pada populasi tersebut dengan menggunakan metode Kirby-Bauer. Hasil yang didapat memperlihatkan bahwa 93% dari galur yang diisolasi ternyata sensitif kloramfenikol dan 27% sensitif tetrasiklin. Disarankan agar kontrol Salmonella pada lingkungan harus ditangani secara serius. Meskipun demikian kloramfenikol masih mempunyai kemungkinan sebagai obat pilihan yang baik.

### Abstract

Human typhoid fever and gastro-enteritis caused by the genus Salmonella are world-wide health problems. The serogroups of this bacteria can be used as an indicator on the food and water safety of a country. In Indonesia especially in DKI Jakarta, there is a waste treatment area (IPAK) serving as environmental control. Salmonella have been isolated from IPAK using Salmonella Shigella Agar Medium. Salmonella population have been tested using Kirby-Bauer method. The result show that 93% of the isolated strains are sensitive to chloramphenicol and 27% are sensitive to tetracycline. It is suggested that Salmonella control in those environments should be taken more seriously. However chloramphenicol have a possibility as a good choice of drug.

CHEMICAL COMPOSITION

Chromatographically purified capsular polysaccharide from *Salmonella typhi* (CP-V-antigen) is the main polysaccharide typhoid VIANVAC vaccine component. CP-V-antigen is isolated by gel filtration with use of most mild methods of treatment and lowest number of procedures with chemical agents involved. CP-V-antigen is being highly purified during manufacturing process. Protein and nucleic acid admixtures constituting the main impurities are

Department of Biology, Faculty of Science and Mathematics,  
Bogor Agriculture University, Indonesia

INTRODUCTION

Typhoid fever is still a common disease causing significant morbidity and mortality in countries that have not yet achieved satisfactory control of drinking water, food and sewage disposal.

Control of typhoid fever may be aided by immunization, but widespread protection by this method has not been achieved for various reasons, including the limited and restricted use of available vaccines.

Department of Microbiology, Bogor Agriculture University