ABSTRAK

Telah dilakukan isolasi dan deteksi gen *cytochrome b* sebagai penanda gen babi pada 6 sampel *emulsifier* makanan terdiri dari 3 sampel gelatin dan tiga sampel *emulsifier* semisolid yang diduga masih mengandung sisa gen babi. Gen *cytochrome b* diamplifikasi menggunakan metode *Polymerase Chain Reaction* (PCR). Metode ini menggunakan *primer* dengan sekuens: 5'-CTT GCA AAT CCT AAC AGG CCT G-3' dan 5'-CGT TTG CAT GTA GAT AGC GAA TAA C-3'. Proses PCR berlangsung selama 35 siklus dengan pengaturan program PCR: pre denaturasi pada suhu 95°C selama 3 menit, denaturasi pada suhu 94°C selama 60 detik, penempelan (*annealing*) pada suhu 61,4°C selama 30 detik, ekstensi pada suhu 72°C selama 30 detik, serta elongasi pada suhu 72°C selama 5 menit dan pendinginan (*cooling*) pada suhu 4°C selama 10 menit. Hasil amplifikasi PCR kemudian dideteksi menggunakan metode elektroforesis. Hasil elektroforesis menunjukkan bahwa tiga dari enam sampel *emulsifier* makanan yang digunakan positif mengandung gen babi (sampel gelatin) dengan membandingkan pita DNA sampel terhadap kontrol positif pada ukuran fragmen 131 bp yang spesifik terhadap gen *cytochrome b* babi, sedangkan tiga sampel lainnya tidak mengandung gen babi (sampel *emulsifier* semisolid).

ABSTRACT

Isolation and detection of cytochrome b as a marker gene of pork had been observed from six samples of food emulsifier consist of three gelatin samples and three semisolid emulsifier samples that possibly contaminated by porcine gene. Cytochrome b gene was amplified using the Polymerase Chain Reaction (PCR) method. This method using primers with the sequences : 5'-CTT GCA AAT CCT AAC AGG CCT G-3' and 5'-CGT TTG CAT GTA GAT AGC GAA TAA C-3'. PCR process lasts for 35 cycles with the program settings of PCR: predenaturation at a temperature of 95°C for 3 minutes, denaturation at a temperature of 94°C for 60 seconds, annealing at 61,4°C for 30 seconds, extension at 72°C for 30 seconds, and elongation at 72°C for 5 minutes also cooling at a temperature of 4°C for 10 minutes. The result of PCR amplification was then detected using electrophoresis method. Electrophoresis results shown that three out of six samples contaminated by porcine gene (gelatin sample) compared to the positive control on fragmen size 131 bp, which is specific to the cytochrome b gene of pork, whereas the other three was not contaminated (semisolid emulsifiers).