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3'-Rapid Amplification cDNA Ends (3'-RACE) of palmitoyl ACP-thioesterase gene fragment from mesocarp of oil palm

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Palm oil contains 40% of palmitic acid, a saturated fatty acid, synthesized by PATE gene. Therefore down-regulation of PATE gene will significantly increase the palm oil quality. The objective of the study was to isolate PATE gene to be able to down-regulated its expression. PATE gene was isolated by rapid amplification 3'-cDNA ends (3'-RACE). cDNA was synthesized using mRNA isolated from unripe fruitlet. Nested PCR was conducted and the PCR products were sequenced using Sanger method. The sequence data were blasted to the genebank database to obtain gene identity. A total of 483 bp of PATE gene was successfully amplified. The results showed that the 483 bp nucleotide sequence was 97.10% identical to PATE from oil palm mesocarp (acc. num. AF147879.2). The datasets developed in this study will help in developing strategies to manipulate palmitic acid composition on palm oil. Efforts to isolate full-length PATE gene are still needed.

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