

D. Screening of True Lipase Activity

True lipase activities of the isolates were verified on Rhodamine B olive oil agar plates at both 25°C and 4°C. Orange-coloured fluorescence halos around lipase producing colonies were seen when these agar plates were exposed to UV light at 350 nm. While bacteria gave positive result to lipase activity after three days at 25°C, orange colour observed after a week at 4°C (Fig.4). Rhodamine B dye test gave more convenient results than others because the test showed positive results to only lipase existence and not affected by bacterial metabolite wastes. This method is not sensitive to the pH changes and does not inhibit the growth of bacteria. Out of these, four bacterial isolates were shown lipase activity.

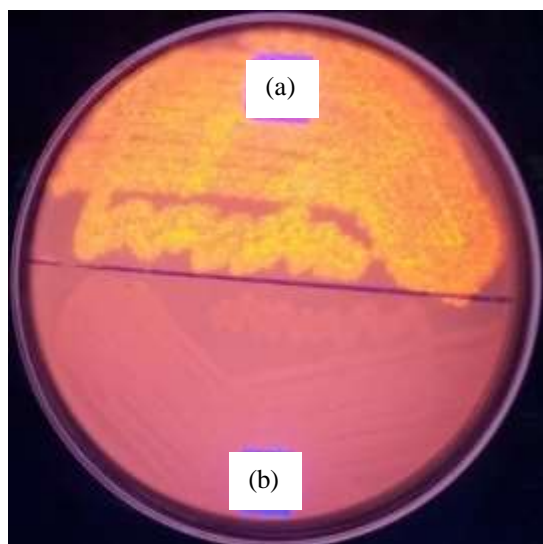


Fig.4 Lipase activity of the isolates on olive oil + rhodamine B agar plate (a) Lipase-positive bacteria, (b) Lipase-negative bacteria

IV. CONCLUSIONS

The present study confirms that the bacterial strains L3, L14, L20 and L25 have the lipase and esterase activities. Therefore, they can be further studied as the locally isolated strains for industrial applications. The taxonomy of the isolated strains can be further examined by using Bergey's Manual of Determinative Biology and confirmed by 16S rDNA sequencing. The optimization studies can also be performed with other physiological parameters for their possible exploration at lab and industrial scale production of lipase.

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