A plate assay for primary screening of lipase activity

ABSTRACT

A method for primary plate assay to determine lipase activity was developed. Tween 80 was used as the substrate with either Victoria Blue B, methyl red or rhodamine B as the indicator. Lipolytic activity was determined by the formation of the zone of intensification of the indicator colour after 24 h. Similar results were obtained using Tween 20 and 60 as substrates. Intensity of the colour is greater than that of the trioleindye system and clearer than the hydrolysis zone of tributyrin plate. Tests using a commercial enzyme preparation and growth media with lipolytic activity showed that the zone of intensification increased with increased lipolytic activity. A linear relationship can be seen when log enzyme concentration is plotted against the diameter of zone of intensification. Using this technique, primary screening of lipolytic microorganisms can be conducted using the formation of zones of intensification around the colonies and mycelia.

Keyword: Plate assay; Lipase; Tween