A method is described for turbidimetric assay of lipase activity. The substrate is a two-phase emulsion composed of a fairly homogenous dispersion of micelles of either triolein or olive oil. The de-emulsification of the substrate after lipase addition is a true measure of the enzymatic activity. Turbidity change is related to amount of the enzyme by use of a commercial standard, purified lipase from hog pancreas. The quantitative relationship between turbidity change and the number of micelles provides the theoretical basis for this type of assay.