

International Conference on
MATERIALS RESEARCH AND DEVELOPMENT

&

International Conference on
CHEMISTRY AND APPLIED RESEARCH

October 29-30,2018
Prague, Czech Republic

Screening of peroxidase activity in peels of different plants

Hasan HR, Mathkor TH and Daham ZM
University of Baghdad, Iraq

With increasing environment pollution and the trend toward green chemistry, the waste recycling and biomass usage has become a major goal for all researchers in the world. Therefore, this study aimed to use the plant peels as costless source for the extraction and isolation of peroxidase (POD) which has many application in various scientific and industrial uses. The presence of POD was screened by measuring its activity in different plant wastes. Melon peels was found to have the highest activity and specific activity 8.64 U/g of peels and 5.02 U/mg of proteins, respectively. Among the most local classes of melon present in Iraq (Hafidh Nafsah) was found to contain the highest activity of this enzyme. The optima temperature and pH were measured for Hafidh Nafsah peel POD and found to be 70 C° and 7.0 respectively. Upon study the heat and pH stability of this enzyme, the results show, the enzyme was found to be stable at 60 C° for up to 190 minutes with a loss 20% only of its activity. Meantime, the enzyme exhibited

a relative stability at both acidic and basic pH (2.5 & 9.5) for up to one hour. Furthermore, a pilot experiment was carried out as a trail to purify POD extracted from Hafidh Nafsah melon peels using its heat stability characteristic where a 1.45 fold of purification and 85.38 % yield was obtained after heating the extract for 3 hours at 60 C°.



Biography

Hathama Razooki Hasan is the Professor of biochemistry at chemistry department/College of Science/Baghdad University, where she teaches undergraduates & postgraduates students' different aspects of biochemistry. She received her BSc in biochemistry from Chemistry department/College of Science/ university of Baghdad. She pursued her postgraduate study, at the University of Nottingham in the United Kingdom, receiving a PhD degree in Biochemistry. She held the position of the head of chemistry department for the period of October 2008- the end of September 2011. She has a scientific career in supervising many MSc & PhD students and published many research papers inside Iraq & abroad.

hathamahasan@scbaghdad.com

Notes: