

University of Baghdad

University of Baghdad			
College Name	College of Dentistry		
Department	Basic Science		
Full Name as written in Passport	Rasha mohammed shakir		
e-mail	drjamalani@Yhoo.Com		
Career	<input checked="" type="radio"/> Assistant Lecturer	<input type="radio"/> Lecturer	<input type="radio"/> Assistant Professor
	<input checked="" type="radio"/> Master	<input type="radio"/> PhD	
Thesis Title	Invertase production from the mold aspergillus terreus by solid state fermentations		
Year	2004		
Abstract	<ol style="list-style-type: none"> <li>1. Fifteen extracellular invertase producing isolates had been isolated from different local sources and the isolate R<sub>6</sub> was the highest and the most stable producer. The isolate R<sub>6</sub> was identified according to (Pitt and Hocking, 1997) as <i>Aspergillus terreus</i>.</li> <li>2. The optimum conditions for invertase production from local isolate (R(i) <i>Aspergillus terreus</i> using medium consists of molasse 5.4gm/ 100 ml D.W. (3% T.Ss), (NH<sub>4</sub>)<sub>2</sub>S<sub>0</sub><sub>4</sub> (0.2%), MgSO<sub>4</sub>. 7H<sub>2</sub>O (0.05%), KC1 (0.05%), K<sub>2</sub>HPO<sub>4</sub> (0.1%), was initial PH 6.8, 144 h (period of fermentation), 1×10<sup>6</sup> spore/ gm (size of inoculum) and fermentation temp. 25C\</li> <li>3. Enzyme was partially purified by two steps including dialysis followed by ionexchange chromatography using DEAE- Cellulose , the purification fold and enzyme yield were 8.21 and 76.04% respectively.</li> <li>4. The result of partially characterization revealed that the pH optimum of the enzyme activity was 2 and it was most stable at pH values ranged between ( 3- 5 ) , mean while the enzyme retained its activity over 10 min incubation at ( 20 -40 ) C and the optimum temp, for the enzyme activity was 60 C. The activation energy for substrate conversion was 1.87 kcal/ mol.</li> <li>5. The final reaction products were analyzed by (TLC) and it shown that glucose and fructose were the product of sucrose hydrolysis.</li> <li>6. Partially purified invertase was immobilizd by different methods. The resulte indicated that immobilization of the enzyme with Fe<sup>f</sup> gave the highest activity since the enzyme retained 76.52% of it's original activity. Moreover it retained 70.94 % and 58.42 activity over 2 and 4 weeks storage at (4 C*) respectively .</li> </ol>		