

Extraction and Characterizations of Carnosines from Animals Sources

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Summary

The study Included extracting carnosines from chicken breast meat, goose breast meat, alkhshni fish and bovine thigh meat and bovine brain, by using alcohol and water separation, also studied the chemical content of moisture, protein, fat , ashes, carbohydrates and others to primary raw materials a carnosines purification by ultrafiltration technique after that as total content of iron raw materials and prepared extracts, Carnosines was Identified in several ways including Thin Layer chromatography and Identified using UV-visible spectroscopy and infrared spectrometer technology and High Performance Liquid Chromatography (HPLC) and Electrophoresis.

Antioxidant of prepared was studied, ferrous ion binding , hydrogen peroxide scavenging , hydroxyl radical scavenging , the reducing power , the active oxygen scavenging and usability beta-carotene pigment Palace also examined factors influencing the consistency of effective antioxidant carnosines prepared with temperature , pH , sodium chloride salt , light , and sugars.

Carnosines used with Peanut oil and examined the changes that occur to the oil during storage of ansidin value ,thiobarbituric acid value, peroxide value as well as Totox value.

The results showed:

1.Alcoholic extracts concentration 35% was the highest activeness for all the samples studied as its chicken breast meat extract 66.5%, while for water extracts thermal treatment surpassed 80 C° for all samples was up when alkhshni fish extract with 39.4%.

2. Assessment results overall iron raw materials highest at Goose breast meat at 2.715 ppm and the lowest was 1.66 ppm when bovine brain, low iron concentrations observed during extraction and filtration at highest

when alcoholic extracts 0.897 ppm goose breast meat and the lowest was when the bovine thigh meat with 0.452 ppm, either water extracts was 0.822 ppm for chicken breast meat and bovine thigh meat was at least 0.344 ppm, after ultrafiltration stage reached the highest iron carnosines 0.450 alcoholic alkshni fish ppm and the lowest was when bovine brain with ppm, 0.153 water carnosines was 0.191 ppm alkshni fish and less proportion of bovine brain at 0.050 ppm.

3. When Purified carnosines detection with thin layer chromatography the results showed that there are many spots and observed that the rate of flow (Rf) levels a decrease in the rang 0.183 goose breast meat and 0.216 alkshni fish, while the rate flow amounted to alcoholic extracts between 0.188 goose breast meat and 0.210 alkshni fish , spectral diagnostics using ultraviolet-visible carnosines single Summit showed at 215 nm wavelength except carnosines bovine brain extract popping its top at 210 nm wavelength And at diagnosis high Performance liquid chromatography (HPLC) retention time stood for standard carnosines 2.532 and author carnosines separated from 2.558 and 2 733 minutes, When the alcoholic carnosines molecular weight estimation technique of electrophoresis appeared one band each molecular weight ranged between bovine brain 225.24 Dalton to 226.09 Dalton of chicken breast meat, while water carnosines range bovine brain 225.26 Dalton to 226.63 Dalton bovine thigh meat, after detecting toxin proved toxicity of carnosines prepared on human blood serum and there have been no changes in its shape and appearance.

4. The results showed that there is significal differences($P<0.05$) in antioxidant activity between carnosines, 74% and 72.9% ,The highest chelating of ferrous ion 92% and 95.0% . hydrogen peroxide Radical scavenging 96% and 97.4% So in hydroxyl Radical scavenging 96.9% and 97.6%. For active oxygen Radical scavenging 87.7% and 86.1%. Alcoholic carnosines learned from chicken breast meat, water carnosines derived from alkshni fish, respectively, either reducing power alcoholic carnosines top were meat chicken breast with carnosines higher

absorbency 2.213 ,water carnosines absorbency of 1.802 bovine thigh meat.

5. the results of Beta-carotene pigment discolor alcoholic carnosines compared the sample carnosines chicken breast meat to alkhshni fish with 23.90%, 27.40% at minute 30 and increased to reach 35.80% 49.27% at 120 minute apiece down the storage duration, respectively, while the relationship between oxidation rate carnosines prepared counterproductive decreased over time for all samples with alcohol carnosines chicken breast meat to alkhshni fish 0.776 and 0.725 when: 30 and arrived at 0.507, When the 120 minute 0.614 respectively, while the highest antioxidant effectiveness based on inhibition of oxidation of linoleic acid beta-carotene pigment carnosines prepared from alcoholic carnosines for chicken breast meat, water carnosines for alkhshni fish at 42.66% and 30.02% during 60 minutes and dropped to 34 percent and 21.35% at 120 minute.

6. when the consistency of carnosines antioxidants examined towards different degrees of thermal treatment ranged from 25-121C°, the highest value was at 70 C°, with the change in pH of 3 11 carnosines showed an increase in antioxidant effectiveness with increasing pH value down to 11, when different treatment in concentrations of salt NaCl ranged between 2% and 8% were higher effective antioxidant when concentration of 4% and overtook antioxidant effectiveness of carnosines transactions exposed to darkness. On those exposed to light, and showed a high susceptibility carnosines interact with the sugars were higher effectiveness with the sugar fructose which is increasing with increasing to a maximum at 400 mg/ml concentration.

7. Prepared Carnosines were put in peanut oil for about 120 days, peroxide values estimated , ansidin Value, Thiobarbituric acid Value and Totox values were calculated and to follow the changes that occur in these tests every 15 days through appreciation of the values above and significal differences concentration 0.1% on the concentrations of all the applications listed.