**Table S1.** Comparative profile of antioxidant capacity of breast and thigh meat among Cobb broiler and Jabalpur color chicken.

Values are mean ± SE (n = 20). Values are mean ± SE (n = 20). \*Significant (p ≤ 0.05) difference within a column (Cobb and JBC) and # within a row (Breast and thigh).

1. **ABTS (2,2′-azinobis-3- ethylbenzothiazoline-6-sulfonic acid) radical scavenging assay**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **ABTS** | | **TEABTS** | |
| (% Inhibition) | | (TE µM/g of tissue) | |
|  | **Breast** | **Thigh** | **Breast** | **Thigh** |
| **Cobb Broiler** | 43.78±1.47 | 29.62±1.27# | 6062.5±257.31 | 3737.5±210.32# |
| **Jabalpur Color** | 52.12±1.36\* | 28.48±1.06# | 7375±210.65\* | 3550±175.46# |

**2.      DPPH (1,1-diphenyl-2-picrylhydrazyl) radical scavenging assay**

|  |  |  |
| --- | --- | --- |
|  | **Breast** | **Thigh** |
| (% Inhibition) | (% Inhibition) |
| **Cobb Broiler** | 70.56±0.59 | 63.46±0.56# |
| **Jabalpur Color** | 73.92±0.44\* | 67.26±0.63\*,# |

**3.     FRAP (Ferric reducing antioxidant power)**

|  |  |  |
| --- | --- | --- |
|  | **Breast** | **Thigh** |
| (mM Fe2+/g of tissue) | (mM Fe2+/g of tissue) |
| **Cobb Broiler** | 15.24±0.40 | 19.20±0.31# |
| **Jabalpur Color** | 22.84±0.25\* | 26.82±0.36\*,# |

**4.      CUPRAC (Cupric reducing antioxidative capacity) assay**

|  |  |  |
| --- | --- | --- |
|  | **Breast** | **Thigh** |
| (Trolox equivalent (TE ) mM/g of tissue) | (Trolox equivalent (TE ) mM/g of tissue) |
| **Cobb Broiler** | 9.0±0.24 | 7.16±0.25a# |
| **Jabalpur Color** | 12.71±0.32\* | 7.49±0.30# |

**5.      ORAC (Oxygen radical absorption capacity) assay**

|  |  |  |
| --- | --- | --- |
|  | **Breast** | **Thigh** |
| (TE µM/g of tissue) | (TE µM/g of tissue) |
| **Cobb Broiler** | 748.56±7.48 | 762.82±9.19 |
| **Jabalpur Color** | 765.82±9.48 | 785.95±6.40\* |

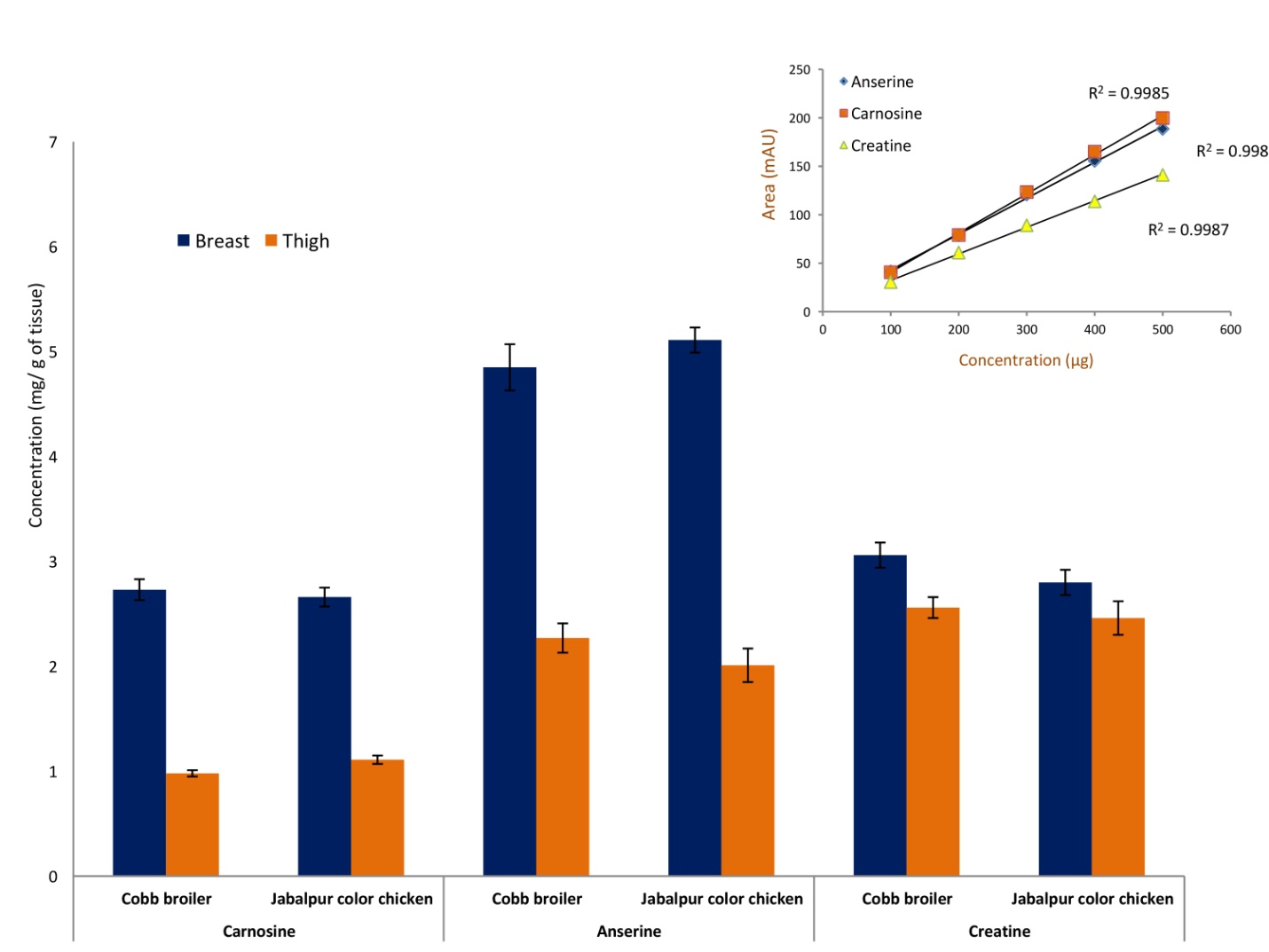
**6. Metal Chelation Activity**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Metal Chelation Activity** | | **EDTA Equivalent activity** | | **Carnosine equivalent activity** | |
| (% Inhibition) | | (EEA µM/g of tissue) | | (mM/g of tissue) | |
|  | **Breast** | **Thigh** | **Breast** | **Thigh** | **Breast** | **Thigh** |
| **Cobb Broiler** | 53.63±1.79 | 80.75±0.95# | 2819.29±85.84 | 4117.96±45.60\*,# | 148.63±4.34 | 214.26±2.30\*,# |
| **Jabalpur Color** | 46.3±2.36\* | 63.13±1.87\*,# | 2468.22±112.81\* | 3273.85±89.61\*,# | 130.89±5.70\* | 171.60±4.53\*,# |

**7.      Superoxide dismutase activity**

|  |  |  |
| --- | --- | --- |
|  | **Breast** | **Thigh** |
| (% Inhibition) | (% Inhibition) |
| **Cobb Broiler** | 93.16±1.07 | 89.50±1.34# |
| **Jabalpur Color** | 95.84±0.93 | 93.69±1.32\* |

**Figure S1.** Carnosine, anserine, and creatine concentrations of breast and thigh meat. Bars represent mean ± standard error (n = 20). High-performance liquid chromatography (HPLC) linearity range and regression



**Standard curves of various Antioxidant capacity assays (*In vitro*)**

|  |  |
| --- | --- |
| 1 | 2,2′-azinobis-3- ethylbenzothiazoline-6-sulfonic acid (ABTS) assay |

|  |  |
| --- | --- |
| 2 | 1,1-diphenyl-2-picrylhydrazyl (DPPH) assay |

|  |  |
| --- | --- |
| 3 | Ferric reducing antioxidant power (FRAP) assay |

|  |  |
| --- | --- |
| 4 | Cupric reducing antioxidative capacity (CUPRAC) assay |

|  |  |
| --- | --- |
| 5 | Oxygen radical absorption capacity (ORAC) assay |

|  |  |  |
| --- | --- | --- |
| 6 | Metal chelating activity (MCA) | MCA (%)= (Acontrol – Asample)/Acontrol x 100  A=Iron-ferrozine absorbance at 562 nm |