**Supporting Information**

The amino acid sensor MetRS is required for methionine-induced milk protein synthesis in a domestic pigeon model

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**Supplementary Tables**

**Table S1. Ingredient and nutritional compositions of experimental diets (air-dried basis, %)**

|  |  |  |
| --- | --- | --- |
| Ingredient (%) | Control group (%) | Met-deficient group (%) |
| Corn | 52.00 | 52.00 |
| Sorghum | 10.00 | 10.00 |
| Soybean meal | 9.00 | 9.00 |
| Pea | 20.00 | 20.00 |
| Wheat | 6.00 | 6.00 |
| Dicalcium phosphate | 1.10 | 1.10 |
| Shell powder | 0.60 | 0.60 |
| Salt | 0.30 | 0.30 |
| Vitamin and mineral premix1 | 0.40 | 0.40 |
| DL-methionine | 0.30 | 0.00 |
| Lysine-HCl | 0.30 | 0.30 |
| Zeolite powder | 0.00 | 0.30 |
| Total | 100 | 100 |
| Nutrient composition (%) |  |  |
| Metabolic energy (ME, MJ/kg) | 12.18% | 12.18 |
| Crude protein | 15.00 | 15.00 |
| Calcium | 0.75 | 0.75 |
| Available phosphorus | 0.53 | 0.53 |
| DL-Met | 0.55 | 0.21 |
| Lysine | 0.98 | 0.98 |

1 Provided per kilogram of diet: vitamin A 4000 IU, vitamin D3 1725 IU, vitamin E 36 IU, vitamin K3 1 mg, vitamin B1 3 mg, vitamin B2 13 mg, vitamin B6 2 mg, vitamin B12 25 mg, biotin 15 mg, folic acid 0.55 mg, pantothenic acid 7.5 mg, biotin 0.12 mg, Cu 10 mg, Fe 35 mg, Mn 55 mg, Zn 35 mg, iron 0.2 mg, Se 0.25 mg.

**Table S2. Antibodies used in this study.**

|  |  |  |
| --- | --- | --- |
| Antibody | Source | Product Number |
| MetRS  p-JAK2 | Abcepta  Cell Signaling Technology | #R24917  #3771 |
| JAK2 | Cell Signaling Technology | #3230S |
| p-STAT5 | Cell Signaling Technology | #Tyr694 |
| STAT5 | Cell Signaling Technology | #25656S |
| PCNA | Cell Signaling Technology | #2586 |
| KRT19 | HuaBio | #ER1803-79 |
| αS1-casein | Santa Cruz Biotechnology | # SC365929 |
| β-casein | Santa Cruz Biotechnology | # SC166526 |
| WAP | Santa Cruz Biotechnology | #R131 |
| SOCS3 | Zen BioScience | #251981 |
| β-actin | Zen BioScience | #600149 |