**Supplementary Table 1:** Study characteristics (type and fraction of fish used, length of intervention period, diet availability, prandial state at euthanasia) and outcomes (dietary intake, bodyweight gain, adiposity)

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| Ref. | **Fish species (w. Latin name when provided) or genus, part of fish used and processing** | **Duration of intervention period** | **Diet availability** | **Prandial state at euthanasia** | **Dietary intake in fish protein group(s) compared to casein group** | **Bodyweight gain during the intervention period in fish protein group(s) compared to the casein group** | **Adiposity in fish protein group(s) compared to casein group** |
| ([39](#_ENREF_39)) | Cod muscles were lyophilised and defatted | 3 weeks | Ad libitium | Fasted 6-8 hrs | Feed intake: NS | NS in cholesterol-free cod diet, weight gain was larger in rats fed a cholesterol-enriched diet containing cod | N/A |
| ([63](#_ENREF_63)) | Cod muscles were lyophilised, defatted and powdered | 3 weeks | Ad libitum | Non-fasted | Feed intake: NS | NS | N/A |
| ([66](#_ENREF_66)) | Cod muscles were defatted and lyophilised | 28 days | Ad libitium | n 10 fasted (16 hrs) and n 10 non-fasted rats in each dietary group | Feed intake: NS | NS | N/A |
| ([40](#_ENREF_40)) | Cod muscles were defatted and lyophilised | 28 days | Ad libitium | Fasted 12 hrs | Feed intake: NS | NS | N/A |
| ([68](#_ENREF_68)) | Both experiments:  Atlantic salmon muscles were hydrolysed | Exp 1:  11–12 d  Exp 2:  22- 23 d. | Both experiments:  Ad libitium | Both experiments:  Fasted: N/A | Both experiments:  N/A | Both experiments:  N/A | Both experiments:  N/A |
| ([67](#_ENREF_67)) | Both experiments:  Alaska pollock (Theragra chalcogramma) muscles were defatted and lyophilised | Exp 1: 20 days  Exp 2: 22 days | Exp. 1:  Feed intake was slightly restricted  Exp. 2:  Feed intake was slightly restricted | Exp. 1:  Fasted overnight (12 hrs)  Exp. 2:  Non-fasted | Both experiments:  Feed intake: NS | Exp. 1:  NS  Exp. 2:  Higher in the Alaska pollock protein group | Both experiments:  N/A |
| ([36](#_ENREF_36)) | Herring roe was defatted and dried | Pre-diet: 19d with 17% lard.  Intervention: 3 weeks | Ad libitium | Fasted overnight | Feed intake: NS | NS | Abdominal fat pad (epidermal adipose tissues) relative weight: NS |
| ([69](#_ENREF_69)) | Alaska pollock (Theragra chalcogramma) muscles were defatted and dried | 4 weeks | N/A | N/A | Energy intake: NS | NS | Abdominal relative WAT weight: NS |
| ([49](#_ENREF_49)) | Saithe (Pollachius virens, L.) frames were hydrolysed | 26 days | Pair-feeding (no further information provided) | Fasted 24 hrs | Energy intake: NS | Lower in the saithe group | Sum of perirenal + retroperitoneal adipose tissue weights: NS |
| ([43](#_ENREF_43)) | Tuna muscles were defatted and dried | 3 weeks | Ad libitium | Fasted overnight | Feed intake: NS | N/A | N/A |
| ([38](#_ENREF_38)) | Cod muscles were lyophilised and defatted | 28 days | Ad libitium | Fasted 12 hrs | Energy intake: NS  Feed intake: NS | NS | N/A |
| ([61](#_ENREF_61)) | Alaska pollock (Theragra chalcogramma) muscles were defatted and lyophilised | 4 weeks | N/A | Non-fasted | Feed intake: NS | NS | Perirenal, epididymal, and mesenteric relative WAT weights: NS  Total body fat, %: NS |
| ([65](#_ENREF_65)) | Salmon protamine | 4 weeks | Ad libitum | Non-fasted | Feed intake: NS  Energy intake: NS | NS | The relative weight of epididymal, mesenteric and perirenal + retroperitoneal: NS |
| ([58](#_ENREF_58)) | Alaska pollock (Theragra chalcogramma) muscles were defatted and lyophilised | 4 weeks | N/A | Non-fasted | Feed intake: NS | NS | Epididymal relative WAT weight: NS |
| ([55](#_ENREF_55)) | Both experiments:  Atlantic salmon (Salmo salar, L.) by-products were hydrolysed | Exp 1:  46 days  Exp 2:  25 days | Exp 1:  Ad libitum  Exp 2:  Pair-feeding (no further information provided) | Exp 1:  Non-fasted  Exp 2:  Non-fasted | Exp 1  Energy intake: lower in the salmon group  Exp2:  N/A | Exp 1:  NS  Exp 2:  N/A | Exp 1: Epididymal and mesenteric WAT weights: lower in the salmon group  Exp 2: N/A |
| ([51](#_ENREF_51)) | Sardine (Sardina pilchardus) muscles were processed into a presscake, and protein from the presswater was incorporated into the presscake-meal. The final product was defatted | Pre-diet: 10d with 1.5% of cholesterol and 0.75% cholic acid.  Intervention period: 4 weeks | N/A | Fasted overnight | Feed intake: NS | N/A | N/A |
| ([34](#_ENREF_34)) | Herring (Clupea harengus) roe and milt were spray-dried | 2 weeks | Ad libitum | Fasted (duration not stated) | Feed intake: NS | Higher in both the herring roe and the herring milt groups | N/A |
| ([59](#_ENREF_59)) | Alaska pollock (Theragra chalcogramma) muscles were defatted, hydrolysed and dried | 4 weeks | Ad libitum | Non-fasted | Energy intake: NS | NS | Sum of epididymal + mesenteric + perinephric relative WAT weights: NS |
| ([57](#_ENREF_57)) | Alaska pollock (Theragra chalcogramma) muscles were defatted and dried | 4 weeks | N/A | Non-fasted | Feed intake: NS | NS | Epididymal, mesenteric, and perirenal + retroperitoneal relative WAT weights: NS |
| ([35](#_ENREF_35)) | Salmon by-products (spines) werehydrolysed | 12 weeks | N/A | N/A  Blood was collected after an overnight fast one week before euthanasia for plasma TC analysis | N/A | NS | N/A |
| ([62](#_ENREF_62)) | Alaska pollock (Theragra chalcogramma) muscles were defatted and lyophilised | 8 weeks | Ad libitum | Non-fasted | Energy intake: NS | NS | Perirenal, epididymal, and mesenteric relative WAT weights: NS  Total body fat, %: NS |
| ([60](#_ENREF_60)) | Alaska pollock (Theragra chalcogramma) muscles were defatted and lyophilised | 4 weeks | N/A | Non-fasted | Feed intake: NS | NS | Epididymal and perirenal + retroperitoneal relative WAT weights; NS |
| ([50](#_ENREF_50)) | E1: salmon spine (hydrolysed, Acid Protease A)  E2: salmon spine (hydrolysed, Umamizyme)  E4: Salmon backbone and heads (hydrolysed, Alcalase) | 6 weeks | Ad libitum | Fasted overnight | Feed intake: not statistically tested | Lower in the E1 and E4 groups, but E2 was similar to casein | N/A |
| ([70](#_ENREF_70)) | Salmon protamine | 4 weeks | N/A | N/A | Energy intake: NS | NS | The relative weight of epididymal WAT was lower in the protamine group. NS for mesenteric, perirenal+ retroperitoneal, and total WAT weight |
| ([37](#_ENREF_37)) | Atlantic salmon (Salmo salar) muscles were hydrolysed | 12 weeks | Ad libitium | Fasted 6 hrs | Energy intake: NS | N/A | Epididymal, inguinal and retroperitoneal WAT weights: NS |
| ([45](#_ENREF_45)) | Carp dorsal muscles were defatted and lyophilised | 1 week | Ad libitium  Fasted 4 hrs |  | Feed intake: higher in the carp group | NS | Epididymal WAT weight and relative weight: NS |
| ([42](#_ENREF_42)) | Atlantic salmon (Salmo salar) backbones and Atlantic herring (Clupea harengus) by-products (heads, guts, backbones) were hydrolysed and dried | 4 weeks | Ad libitium | Fasted 12 hrs | Energy intake: NS | Higher in the salmon group, the herring group was similar to the casein group | Epididymal WAT relative weight: NS |
| ([54](#_ENREF_54)) | Both experiments:  Alaska pollock (Theragra chalcogramma) muscles and tuna (Thunnus orientalis) muscles were defatted and lyophilised | Both experiments:  28 days | Both experiments:  Ad libitium | Both experiments:  Non-fasted | Both experiments:  Feed intake: NS | Both experiments:  NS | Both experiments: Perirenal, mesenteric and epididymal relative WAT1 weights: NS |
| ([31](#_ENREF_31)) | Atlantic salmon (Salmo salar) muscles (raw or baked), were lyophilised | 4 weeks | Ad libitium | Fasted overnight (12 hrs) | Energy intake: NS | NS | Epididymal relative WAT weight: NS |
| ([56](#_ENREF_56)) | Tuna (Thunnus orientalis) dark muscles were defatted and lyophilised | 28 days | Ad libitium | Non-fasted | Feed intake: NS | NS | Inguinal, mesenteric, epididymal, and sum of perirenal + retroperitoneal relative WAT weights: NS |
| ([44](#_ENREF_44)) | Blue whiting (Micromesistius poutassou) was headed and gutted, and the water-soluble fraction (press liquid) was lyophilised | 5 weeks | Ad libitium | Fasted overnight (12 hrs) | Energy intake: NS | NS | N/A |
| ([41](#_ENREF_41)) | Atlantic cod (Gadus morhua) muscles were baked and lyophilised | 4 weeks | Ad libitium | Fasted 12 hrs | Energy intake: NS | NS | Sum of epididymal, renal and retroperitoneal relative WAT weights: NS |
| ([32](#_ENREF_32)) | Atlantic salmon (Salmo salar) muscles were baked and lyophilised | Both experiments:  4 weeks | Both experiments:  Ad libitium | Both experiments:  Fasted 12 hrs | Both experiments:  Energy intake: NS | Both experiments:  N/A | Both experiments:  Sum of epididymal, renal and retroperitoneal relative WAT weights: NS |
| ([46](#_ENREF_46)) | Sardine (Sardina pilchardus) presscake meals from muscles and by-products (viscera, heads, skins and edges) were defatted, hydrolysed and lyophilised | Pre-diet: 3 months with 20% mutton fat. Intervention period: 4 weeks | Ad libitium | Fasted overnight | Feed intake: lower in the sardine fillet protein group and in the sardine by-product group | Lower in both sardine hydrolysate groups | The adipose tissue (not specified) relative weight: lower in the sardine by-products hydrolysate group, NS for the sardine fillet hydrolysate group |
| ([47](#_ENREF_47)) | Herring milt was hydrolysed and lyophilised | Pre-diet: 6 weeks with 32% lard.  Intervention period: 10 weeks | Ad libitum feeding/controlled intake: N/A | Fasted overnight | Feed intake: NS | N/A | N/A |
| ([52](#_ENREF_52)) | Herring milt dry powder (blended, cooked over low heat and dried)  Herring milt protein hydrolysate (hydrolysed and lyophilised) | Pre-diet: 7 weeks with 32% lard  Intervention period: 9 weeks | N/A | Fasted overnight | Feed intake: NS | Lower in both herring groups | Visceral fat/body weight: NS |
| ([64](#_ENREF_64)) | Alaska pollock (Theragra  chalcogramma) muscles were lyophilised, defatted, air-dried and ground | 6 weeks | Pair-feeding (no further information provided) | Non-fasted | Feed intake: NS | Lower in the Alaska pollock group | The relative weight of epididymal WAT was higher in the Alaska pollock group. Mesenteric, perirenal+  retroperitoneal, and inguinal WAT: NS |
| ([48](#_ENREF_48)) | Alaska pollock (Theragra chalcogramma) muscles were defatted and air-dried | 8 weeks | Ad libitium | Fasted overnight | Feed intake: NS | NS | Epididymal, mesenteric, perirenal and inguinal relative WAT weights: NS |
| ([53](#_ENREF_53)) | Salmon protamine | 50 days | Ad libitum | Fasted 22 hrs | Feed intake: NS | Lower in the protamine group | The relative weights of subcutaneous, perirenal and total WAT: lower in the protamine group. NS for epididymal and mesenteric WAT |

NS; not statistically significant, N/A, data not available, WAT, white adipose tissue