

SUPPLEMENTAL INFORMATION:

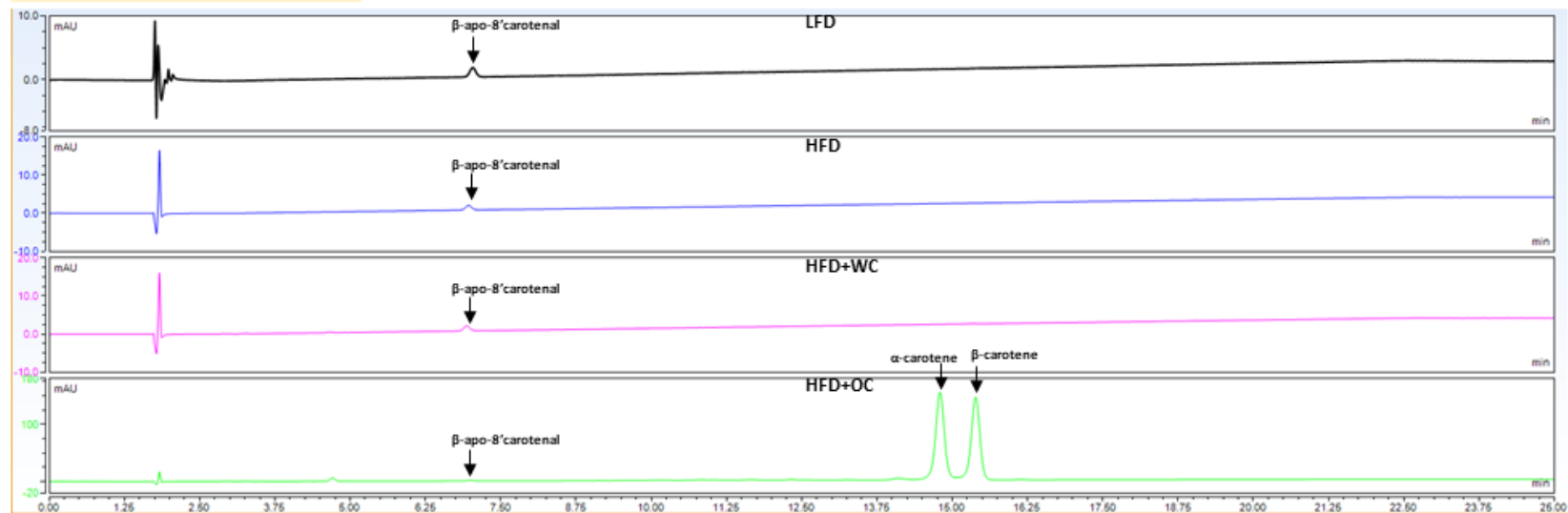
Carotenoids in Orange Carrots Mitigate Non-Alcoholic Fatty Liver Disease Progression

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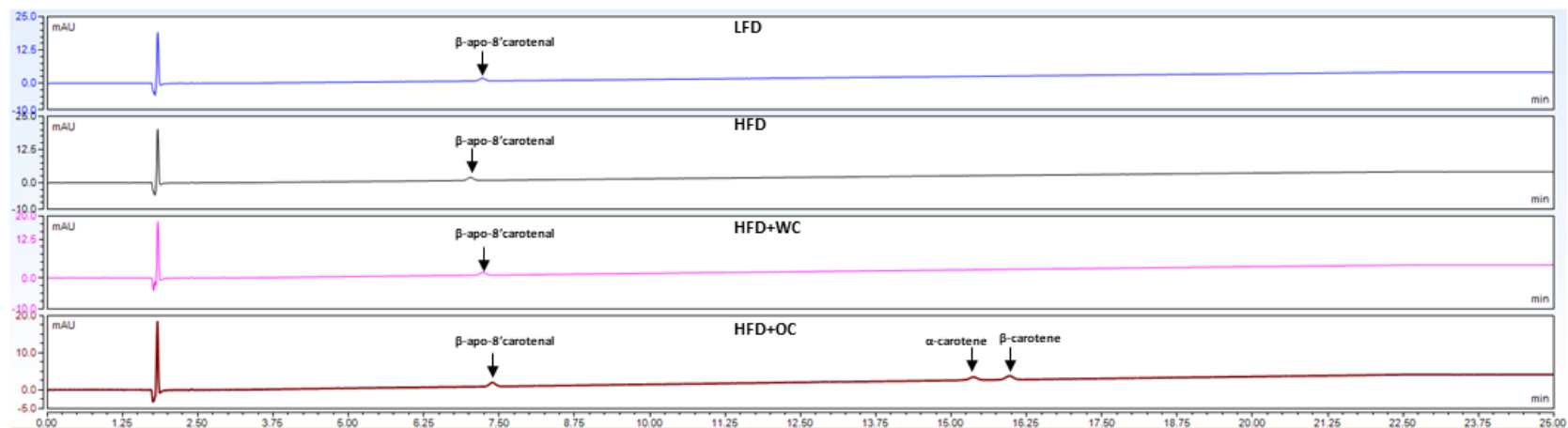
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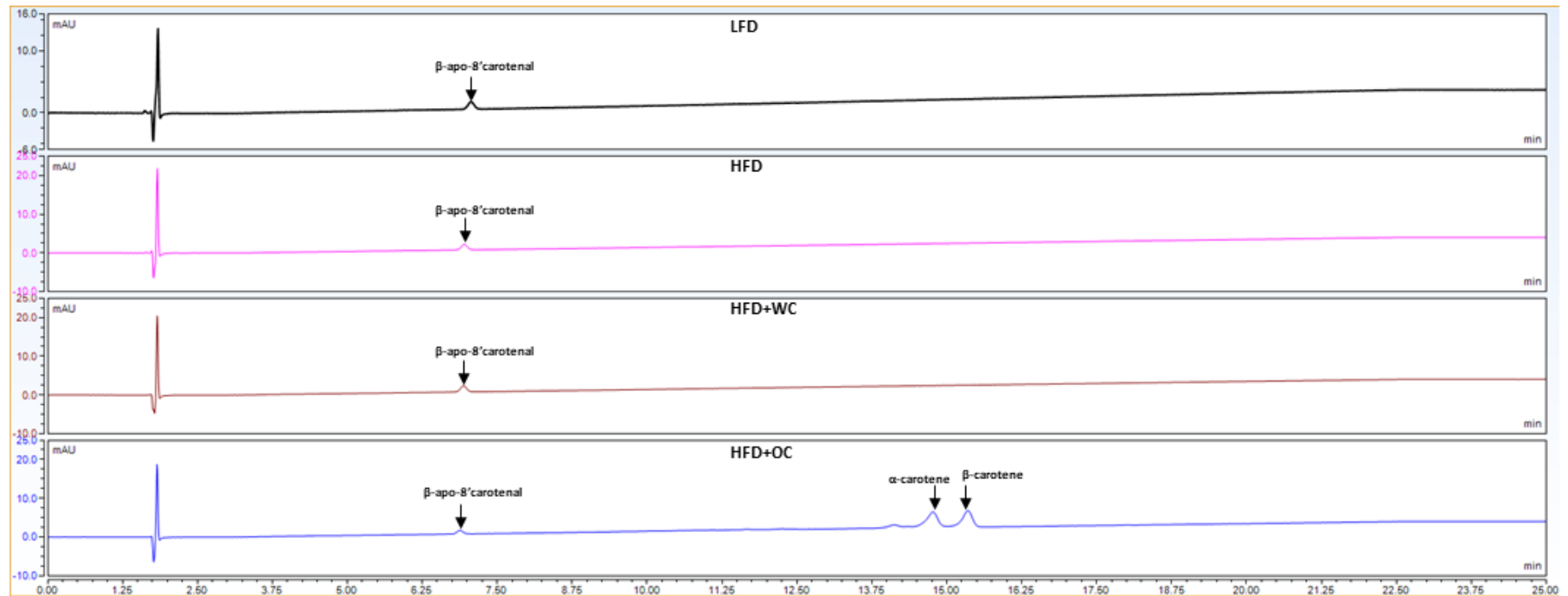
Carotenoids in Dietary Pellets



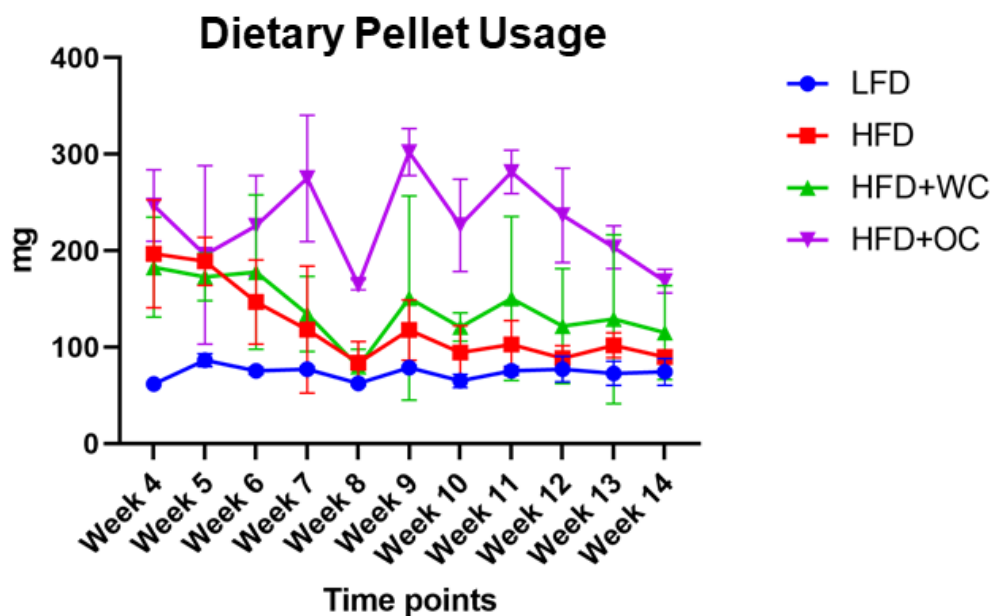
Serum Carotenoids



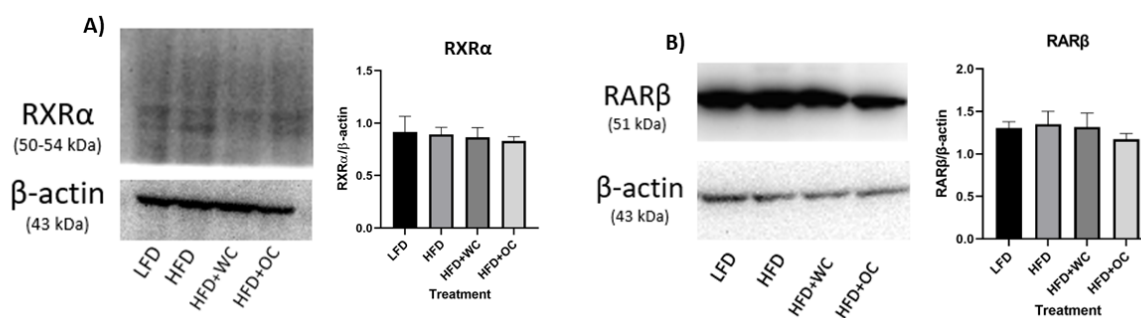
Liver Carotenoids



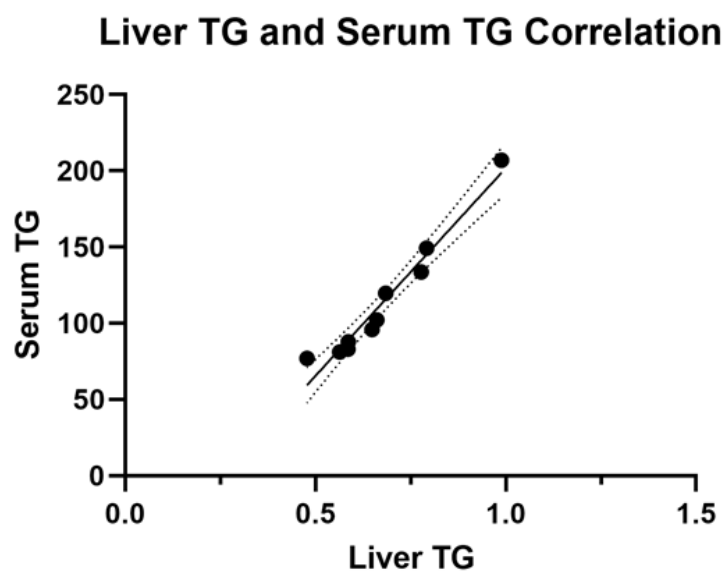
Supplementary Figure 1: HPLC chromatograms of α -carotene and β -carotene in diet pellets, serum, and liver. β -Apo-8'-carotenal used as an internal standard during extractions.



Supplementary Figure 2: Weekly report of dietary pellet loss (consumption and bedding utilization) by weighing food leftover in basket.



Supplementary Figure 3: Western blots of hepatic A) RXRα and B) RARβ. For both western blot, LFD: n=11; HFD, HFD+WC, HFD+OC: n=12.



Supplementary Figure 4: Correlation analysis between hepatic and serum triglyceride (TG) content in the HFD group, $p < 0.001$.

A)

ID	D12450J	D12492		
<u>Treatment name</u>	<u>LFD</u>	<u>HFD</u>	<u>White carrot (HFD+WC)</u>	<u>Orange carrot (HFD+OC)</u>
<u>kcal%</u>				
Protein	20	18	19	19
Carbohydrate	70	21	19	19
Fat	10	61	62	62
<u>Ingredient</u>	<u>g</u>	<u>g</u>	<u>g</u>	<u>g</u>
Casein	200	200	200	200
L-Cysteine	3	3	3	3
Corn Starch	506.2	0	0	0
Maltodextrin 10	0	125	20.24	20.24
Lodex	125	0	0	0
Sucrose	72.8	68.8	68.8	68.8
<u>White carrot powder</u>	0	0	<u>154.76</u>	0
<u>Orange carrot powder</u>	0	0	0	<u>154.76</u>
Cellulose, BW200	0	50	0	0
Solka Floc, FCC200	50	0	0	0
Soybean Oil	25	25	25	25
Lard	20	245	245	245
Mineral Mix, S10026	50	10	10	10
DiCalcium Phosphate	0	13	13	13
Calcium Carbonate	0	5.5	5.5	5.5
Potassium Citrate	0	16.5	16.5	16.5
Vitamin Mix, V10001	1	10	10	10
Choline Bitartrate	2	2	2	2
Total (g)	1055.05	773.8	773.8	773.8
<u>kcal/g</u>	3.82	5.11	5.08	5.08

B)

Class Description	Ingredient	Grams (g)
Carbohydrate	Sucrose, Fine Granulated	78.42
Vitamin	Vitamin E Acetate, 50%	10.00
Vitamin	Niacin	3.00
Vitamin	Biotin, 1%	2.00
Vitamin	Pantothenic Acid, d. Calcium (B5)	1.00
Vitamin	Vitamin D3, 100,000 IU/g	1.00
Vitamin	Vitamin B12, 0.1% Mannitol	1.00
Vitamin	Vitamin A Acetate, 500,000 IU/g	0.80
Vitamin	Pyridoxine HCl (B6)	0.70
Vitamin	Riboflavin (B2)	0.60
Vitamin	Thiamin (B1)	0.60
Vitamin	Folic Acid	0.20
Vitamin	Menadione Sodium Bisulfite	0.08
		Total: 100.00 g

Supplementary Table 1: Compositional break down of A) dietary pellets and B) vitamin (V10001) mix formulated by Research Diets, Inc.

Genes:	Forward:	Reverse:
Acox1	TAAC TTCCTCACTCGAAGCCA	AGTTCCATGACCCATCTCTGTC
β -Actin	CTTTTCCAGCCTTCCTTCTTGG	CAGCACTGTGTTGGCATAGAGG
Cd36	GCGACATGATTAATGGCACA	CCTGCAAATGTCAGAGGAAA
Cpt	GCACTGCAGCTCGCACATTACAA	CTCAGACAGTACCTCCTTCAGGAAA
Fas	GCTGCGGAAACTTCAGGAAAT	AGAGACGTGTCACTCCTGGACTT
Ppara α	GTACCACTACGGAGTTCACGCA	CATTGTGTGACATCCCGACAG
Pgc1 α	TATGGAGTGACATAGAGTGTGCT	CCACTTCAATCCACCCAGAAAG
Scd1	CCGGAGACCCCTTAGATCGA	TAGCCTGTAAAAGATTTCTGCAAACC
Srebp1	TAGAGCATATCCCCCAGGTG	GGTACGGGCCACAAGAAGTA

Supplementary Table 2: Primer sequences used in qPCR experiments. Forward and reverse sequences generated with the NCBI BLAST tool.