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**TS1** Primer sequences used for PCR analysis

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Gene	Accession number	Primer sequence (5'-3')		Annealing temperature
		Forward primer	Reverse primer	
18S	-	AAACGGCTACCACATCCAAG	TTGCCCTCCAATGGATCCT	60
<i>ACC</i>	NM_022193	CAACCACTACGGCATGACTCA	CGCAGAAGCAGCCCATTACTT	60
<i>FAS</i>	NM_017332	TGCTCCCAGCTGCAG	GCCCAGTAGCTCTGGGTGTA	60
<i>Acox1</i>	NM_017340	CAAGGAGAGTGCTACGGGTTA	TTCAGGTAGCCGTTATCCAT	58
<i>SREBP</i>	XM_213329	GCAAGGCCATCGACTACATC	TTTCATGCCCTCCATAGACAC	60
<i>Acly</i>	NM_016987	GCAGACCAGAAGGGCGTGAC	CACACTGCCTGGGCGATACAG	64
<i>Fads1</i>	NM_053445	GTTTGTGTGGGTGACGCAGAT	TTGAAGGCTGACTGGTGAACG	60

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<i>Gpam</i>	NM_017274	CCTGTGGGCATCTCGTATGAT	TTCCGCAGCATTCTGATAAC	60
<i>Dgat1</i>	NM_053437	CAGATGGGGCTGCTGCTACAT	GGCGGCACCACAGATTGACAT	60
<i>PPAR<math>\gamma</math></i>	NM_001127330.2	GCCCTTTGGTGACTTTATGG	CAGCAGGTTGTCTTGGATGT	57.8
<i>LXR<math>\alpha</math></i>	NM_001285517.1	GCACGCTACATTTGCCATAG	CCTGCTCCTCTTCTTGACG	59.7
<i>HMGR</i>	NM_008255.2	TGTGGGAACGGTGACACTTA	CTTCAAATTTGGGCACTCA	55.7
<i>FATP1</i>	NM_011977.3	GTGCGACAGATTGGCGAGTT	GCGTGAGGATACGGCTGTTG	55.9
<i>FABP4</i>	NM_024406.2	CCTTTGTGGGGACCTGGAA	TGACCGGATGACGACCAAGT	55.0
<i>Gsta2</i>	NM_008182.3	GGAGAGAGCCCTGATTGACA	TTCAAAGGCAGGCAAGTACC	59.8

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<i>Gsta3</i>	NM_000847.4	GGGAAGCCAGTCCTTCACTA	GGTCATCCCGAGTTTTCAGA	58.8
<i>Gstm2</i>	NM_008183.3	TTCGCTGTTCTGGAGTAT	TTGCTCTGGGTGATCTTG TG	57.8
<i>Nqo1</i>	NM_000903.2	CGCAGAGAGGACATCATTCA	CGCCAGAGATGACTCAACAG	58.8
<i>Gclc</i>	NM_010295.2	CTGGGGAGTGATTTCTGCAT	AGATCTCCGTGTCGATGGTC	58.8
<i>Gclm</i>	NM_008129.4	TGTGTGATGCCACCAGATTT	GCTTTTCACGATGACCGAGT	56.8
<i>VEGF</i>	NM_001025250.3	GTATATCTTCAAGCCGTCCTGTGTG	GATCCGCATGATCTGCATAGTGAC	62.0
<i>Egfr</i>	NC_000077.6	ACAGCAAGGCTTCTTCAACAGC	GTCTTCTTTGACACGGCAGCTC	60
<i>Igfbp1</i>	NM_010442.2	GACCTCAAGAAATGGAAGGAGCC	CCATTCTTGTTGCAGTTTGGCAG	61

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<i>Pml</i>	NC_000077.6	TCAAGGCCTTGGATGAGAGCC	CGGAACTTGCTTCCCGGTTTC	61.9
<i>GAPDH</i>	NM_001311088.1	CCTTCATTGACCTCAACTACATG	CTTCTCCATGGTGGTGAAGAC	60

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**TS2** Changes on body weight of rats within six weeks in four groups

Groups	0W	1w	2W	3W	4W	5W	6W
NC	322.26±16.02a	392.29±24.03b	415.43±25.73bc	441.46±31.70bc	445.31±31.64b	454.51±27.58b	470.96±30.64c
MC	336.81±20.88a	430.25±32.20a	460.90±40.85a	491.23±40.99a	515.84±44.57a	550.66±43.94a	563.04±49.20a
HAS	335.43±15.89a	410.38±22.81ab	434.89±27.93ab	466.14±34.18ab	477.35±28.61b	499.69±36.02b	512.99±38.98b
EHAS	331.63±21.10a	366.94±23.68b	403.11±26.87c	425.31±32.39c	450.94±38.08b	488.24±44.21b	488.69±43.87bc

NC: Normal Control, MC: Model Control, HAS: High Amylose Starch, EHA: Esterified High Amylose Starch. Different lowercase letters above the same column indicate a significant difference ( $p \leq 0.05$ ); the results are the average value of three replicates  $\pm$  standard deviation.

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**TS3** Changes in Perirenal fat, epididymal fat and body fat ratio of rats after six week period in the four groups

Groups	Perirenal fat (g)	Epididymal fat (g)	Body fat ratio (%)
NC	12.26±2.14b	7.09±1.12b	4.11±0.58b
MC	24.31±2.65a	14.27±2.11a	6.85±1.07a
HAS	19.33±2.16ab	10.68±1.50ab	5.85±0.79a
EHAS	16.71±4.07ab	10.62±2.93ab	5.59±0.86ab

NC: Normal Control, MC: Model Control, HAS: High Amylose Starch, EHA: Esterified High Amylose Starch. Different lowercase letters above the same column indicate a significant difference ( $p \leq 0.05$ ); the results are the average value of three replicates  $\pm$  standard deviation.