**Co-supplementation of isomalto-oligosaccharides potentiates metabolic health benefits of polyphenol-rich cranberry extract in high fat diet-fed mice *via* enhanced gut butyrate production.**

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**Online resource 3: list of gene primers used in the study.**

| **Gene**  | **Forward 5’-3’** | **Reverse 5’- 3’** | **Reference** |
| --- | --- | --- | --- |
| *ACC* | CAGAACATGTGGGTGTCCAG | GGGCGTTCTTTGAAATACCA | [[1](#_ENREF_1)] |
| *ACOX-1* | GAATTTGGCATCGCAGACCC | GATCTCCAGATTCCAGGCCG | [[1](#_ENREF_1)] |
| *C/EBPα* | CCAGTGACAATGACCGCCT | CGACCCTAAACCATCCTCCG | [[1](#_ENREF_1)] |
| *Cld-2* | TCACACTTGAGTCATCGCCC | TCCCACCTCAAGCACAATCC | This study |
| *Cld-4* | GACCTAGAAGCAGCCCAGTG | CTCAGAGGGGCCAACTCAAG | This study |
| *FASN* | GTGAGTCTATCCTGCGCTCC | TCAGTAGGTCGATGAGGGCA | [[1](#_ENREF_1)] |
| *FFAR2* | CTTCCCGGTGCAGTACAAGT | GCTCTTGGGTGAAGTTCTCG | This study |
| *FFAR3* | GCCCCTGTGTATCACGAGTT | GAGTTGAGGGTGCTGAGGAG | This study |
| *G6Pase* | GTGCAGCTGAACGTCTGTCTGT | TCCGGAGGCTGGCATTGT | [[1](#_ENREF_1)] |
| *GK* | CGGATGGTGGATGAGAGCTC | CATTTCACAGGGCAGGGGAT | [[1](#_ENREF_1)] |
| *GYS-2* | AGTCCTCAGTGCAGTGATGC | CTGCATCAGGGTGTGGACTT | [[1](#_ENREF_1)] |
| *HSL* | GAGGCCTTTGAGATGCCACT | GCCAGGCTGTTGAGTACCTT | [[2](#_ENREF_2)] |
| *IL-6* | GATGGATGCTACCAAACTGGA | GAGCATTGGAAATTGGGGTA | [[2](#_ENREF_2)] |
| *MUC-2* | GGCCTCACCACCAAGCGTCC | TGGGCTGGCAGGTGGGTTCT | This study |
| *MUC-4* | TTGCACCTGTCCCCCCTGCCT | GTTCGCCACCGAGGCGTTGA | This study |
| *MyD88* | CATACCCTTGGTCGCGCTTA | CCAGGCATCCAACAAACTGC | This study |
| *NFκB* | GAGGTCTCTGGGGGTACCAT | TTGCGGAAGGATGTCTCCAC | [[1](#_ENREF_1)] |
| *PEPCK* | GAACTGACAGACTCGCCCTATGT | GTTGCAGGCCCAGTTGTTG | [[1](#_ENREF_1)] |
| *PPARα* | CTGGGCAAGAGAATCCACGA | TCTTTGTCTTCGACGCCGTT | [[3](#_ENREF_3)] |
| *PPARγ* | GCCAAGGTGCTCCAGAAGAT | CTTTGTCAGCGACTGGGACT | [[3](#_ENREF_3)] |
| *SOCS3* | CACAAGGAGCCAAACACAGC | CGGACCTACTGACCGAGAGA | This study |
| *TLR-4* | GCTTTCACCTCTGCCTTCAC | TCAGCAGGGACTTCTCAACC | [[1](#_ENREF_1)] |
| *TLR-5* | GGTCCTTCCCTGGAGTCATT | CCACCTGGGTAGCAGACAGT | This study |
| *ZO-1* | TAACTTGGGGAGGGAGGGTC | GGTAAGGCATTCCTGCTGGT | This study |
| *ZO-2* | CCCAGAATGCGAGGATCGAA | CTGGAAGGAGCTTTCTGGGG | This study |
| *β-actin* | TGTTACCAACTGGGACGACA | GGGGTGTTGAAGGTCTCAAA | [[1](#_ENREF_1)] |

ACC = acetyl-CoA carboxylase, *ACOX-1* = Acyl-coenzyme A oxidase 1, *C/EBP α* = CCAAT/enhancer-binding protein alpha, *Cld-2 or-4* = Claudin 2 or 4, *FASN* = fatty acid synthase, *FFAR* = Free fatty acid recptors, *G6Pase*= glucose -6-phosphatase, *GK* = glucokinase, *GYS-2* = glycogen synthase-2, *HSL* = Hormone sensitive lipase, IL-6 = interleukin-6, *MUC* 2 or 4= Mucin 2 or 4, *MyD88* = Myeloid differentiation primary response gene 88, *NF-κB* = Nuclear factor kappa beta, *PEPCK* = Phosphoenolpyruvate carboxykinase, *PPAR α* or *γ* = Peroxisome proliferator-activated receptor alpha or gamma, SOCS3 = Suppressor of cytokine signalling 3, *TLR* = toll like receptors, *ZO* = Zona occludens.

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