

**Table S1: The composition of TFRD**

Chemical composition	Content	
	µg/g	%
Rutin	401592	97.8233
Quercetin	7072.626	1.7228
Quercetin 3-glucoside	1119.576	0.2727
Myricetin	192.0882	0.0468
Kaempferol	149.7704	0.0365
Astragalin	148.6356	0.0362
Genistin	79.12365	0.0193
Genistein	47.70714	0.0116
Taxifolin	28.42508	0.0069
Cynaroside	22.18828	0.0054
Formononetin	18.52867	0.0045
Luteolin	18.25931	0.0044
Isovitexin	13.03135	0.0032
Naringenin	9.408299	0.0023
Biochanin A	6.306109	0.0015
Vitexin	4.016406	0.001
Daidzein	2.543361	0.0006
Apigenin	1.512769	0.0004
Liquiritigenin	1.027148	0.0003
Quercitrin	1.00514	0.0002
Glycitein	0.086143	0
Chrysin	0.014538	0

**Table S2: Assignment of major bands in Raman spectra**

Band assignment	Wavenumber (cm <sup>-1</sup> ) <sup>a</sup>
Amide III' ( $\alpha$ -helix)	830, 850
Amide III' (random coil)	940
Amide III' ( $\beta$ -sheet)	960
Phenylalanine	1003
Amide III ( $\beta$ -sheet)	1224, 1242
Amide III ((random coil)	1250
Amide III ( $\alpha$ -helix)	1265, 1279, 1305
Amide I ( $\alpha$ -helix)	1645, 1655
Amide I (random coil)	1665
Amide I ( $\beta$ -sheet)	1667, 1676
Amide I ( $\beta$ -turns)	1685

<sup>a</sup>  $\pm 3 - 5 \text{ cm}^{-1}$

**Table S3: Primer sequences for quantitative real-time PCR analysis.**

Gens	Gene bank ID	Primer sequence (5'-3')	Products length
IL-1 $\beta$	XM_015297469.2	F: GACCAAAGCTGCTGCGGAGGC R: GAAGGACTGTGAGCGGGTGT	154
IL-6	NM_204628.1	F: CTGCCCAAGGTGACGGAG R: GGTAGGTCTGAAAGGCGAACA	103
IL-10	NM_001004414.2	F: TGCCAAGCCCTGTTGCTG R: TCATCGTCCCTGGATTGAAAA	158
TNF- $\alpha$	XM_040647309.1	F: GGACAGCCTATGCCAACAAGT R: ACACGACAGCCAAGTCAACG	168
SOD	NM_205064.1	F: CCGGCTTGTCTGATGGAGAT R: TGCATCTTTTGGTCCACCGT	125
CAT	NM_001031215.2	F: GGTTCGGTGGGGTTGTCTTT R: CACCAGTGGTCAAGGCATCT	213
GST	NM_001001777.1	F: AGAGTCGAAGCCTGATGCAC R: CACTCCGCTTATCAGCAAACA	220
GPX1	NM_001277853.2	F: ACGGCGCATCTTCCAAAG R: TGTTCCTCCCAACCATTTCTC	73
GAPDH	NM-204305.1	F: CCTCTCTGGCAAAGTCCAAG R: GGTCACGCTCCTGGAAGATA	176

Note: F. Forward primer; R. Reverse primer.