

Assessing radish health during space cultivation by gene transcription.

Supplemental information:

Table S1: Select, verified primer sequences for *R. sativus* used to assess transcription data during space flight and ground control.

Accession #	Description	Primers		Start	Stop	Amplicon Length	Efficiency %
		Sequence (5' - 3')					
AB042186.1	myrosinase activity	F	TCAAGAACCCTGCGAAAC	1576	1594	127	101
		R	AGGAAGTGTGAGAGACATAGA	1682	1703		
AB747087.1	Chlorophyll-binding protein	F	GCAGGAGCACACACTTAC	457	475	111	89
		R	GGTCTTAGCCTCATCATTGG	548	568		
KF682449.1	Glucosinolate synthesis	F	AGCAGAAGTGAGGGAGTAT	981	1000	89	89
		R	CTAAGGCTCTGAAGTAAGGAAG	1048	1070		
EU369394.1	Peroxidase precursor	F	GGAActCAAGGCGAGATAAG	874	894	86	94
		R	CTCACAACACCATCATCCTC	940	960		
M63843.1	Napin storage protein	F	TGAGCCGTATCTACCAGAC	423	441	64	100
		R	ATGCTAACTTGCGGGATTC	468	486		
AT5G09810.1	Actin 7	F	AGCTTCGTGTTGCACCTGAA	456	476	120	104.3
		R	ACATGGCAGGGACATTGAATG	555	576		
Z24738.1	Ubiquitin1	F	GGAGAGCAGTGACACCATCGA	81	103	120	103.8
		R	GCCAAGGTACGACCATCTTCA	180	201		

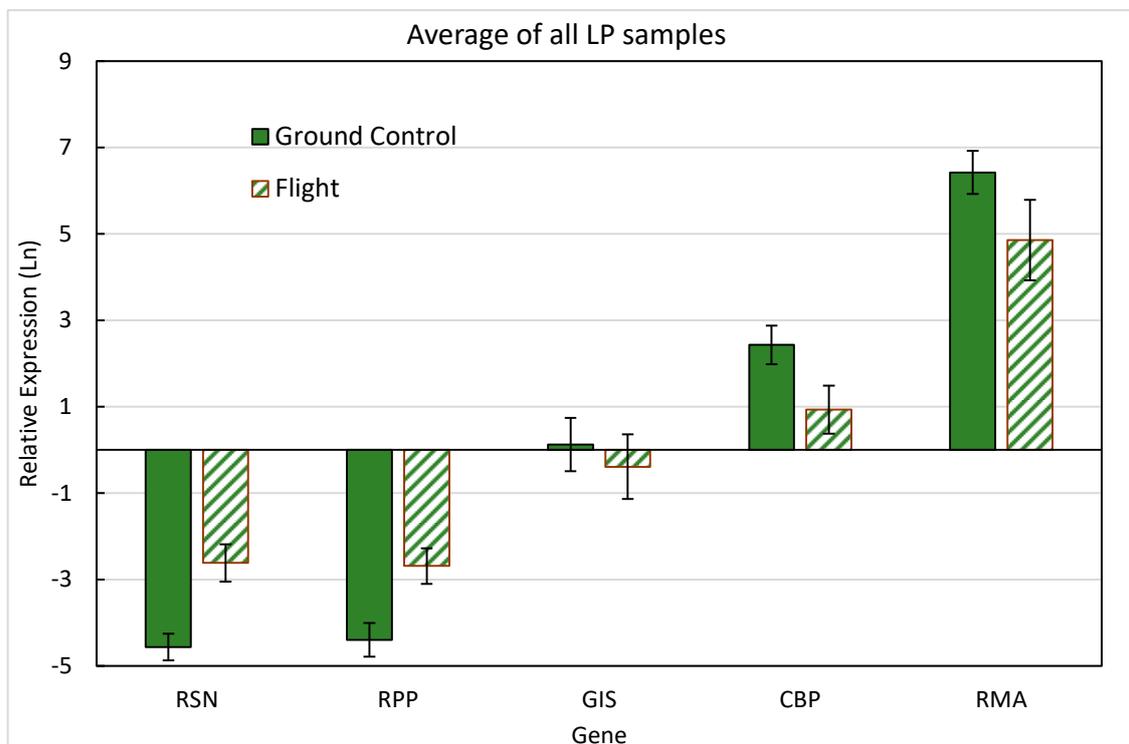


Figure S1: Average transcription of genes during two space flights and a corresponding ground control. The data represent the average of eight leaf punch samples \pm SE and are shown relative to ACT7 and UBQ1 that were collected on day 10, 18 and 24 of a 27-day cultivation period of *R. sativus*, cultivar Cherry Belle.

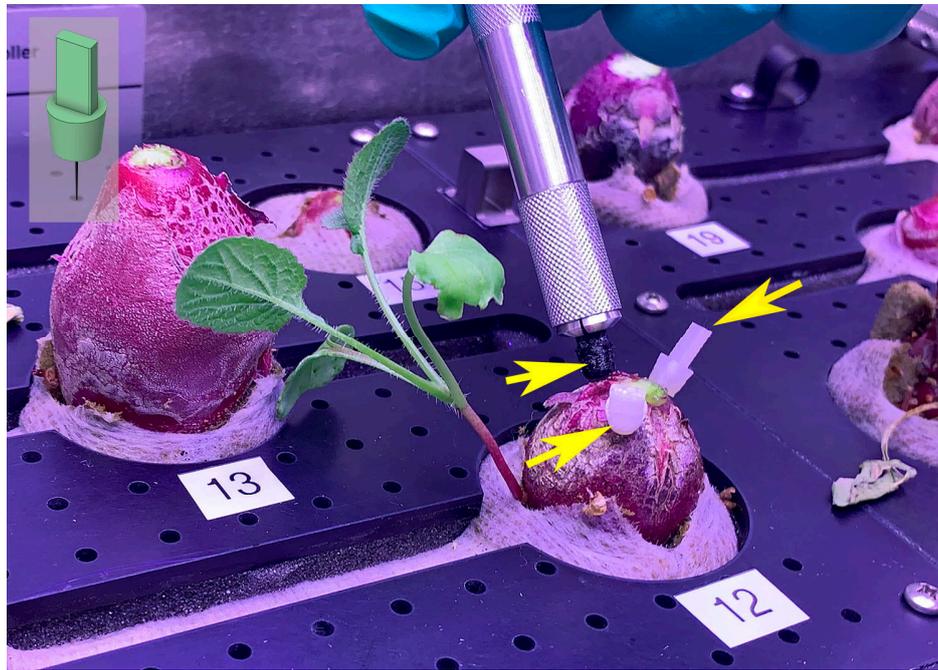


Figure S2: SPGE sampling of radish bulbs showing the holder used to insert the probes into the tissue (arrows). The insert shows a detailed sketch of the holder and probe. Sampling was done on day 27 after imbibition at the Kennedy Space Center and the second grow-out on the ISS.