

Stefania Savoi<sup>1,2\*</sup>, Laurent Torregrosa<sup>3</sup>, Charles Romieu<sup>1\*</sup>

## Single berry development- a new phenotyping and transcriptomics paradigm

### Affiliations

<sup>1</sup>UMR AGAP, Montpellier University, CIRAD, INRAE, Institut Agro-Montpellier, Montpellier, France

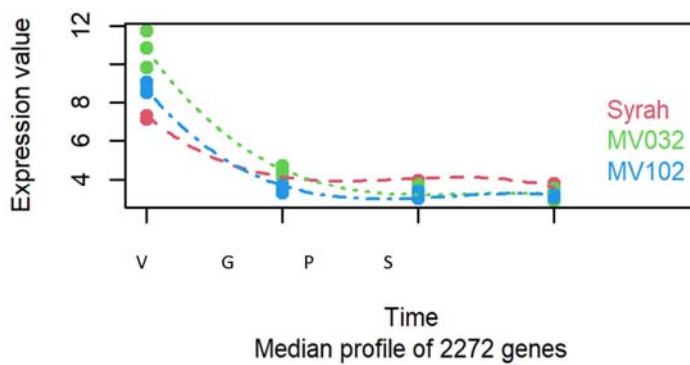
<sup>2</sup>Department of Agricultural, Forest and Food Sciences, University of Turin, Grugliasco, Italy

<sup>3</sup>UMR LEPSE, Montpellier University, CIRAD, INRAE, Institut Agro-Montpellier, Montpellier, France

### Correspondence

Stefania Savoi\*: stefania.savoi@unito.it, Laurent Torregrosa: laurent.torregrosa@supagro.fr, Charles Romieu\*: charles.romieu@inrae.fr

## Supplementary material



Supplementary File 1: Cluster not in consideration for the purpose of the present study.



© The author(s) 2023

This is an Open Access article distributed under the terms of the Creative Commons Attribution 4.0 International Licence (<https://creativecommons.org/licenses/by/4.0/deed.en>)

## Significantly modulated gene in clusters

Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi00g00935	1	Vitvi01g00921	1	Vitvi02g00512	1	Vitvi03g00548	1	Vitvi04g01182	1
Vitvi00g00950	1	Vitvi01g00944	1	Vitvi02g00513	1	Vitvi03g00556	1	Vitvi04g01262	1
Vitvi00g01183	1	Vitvi01g00957	1	Vitvi02g00580	1	Vitvi03g00573	1	Vitvi04g01268	1
Vitvi00g01385	1	Vitvi01g00971	1	Vitvi02g00659	1	Vitvi03g00619	1	Vitvi04g01313	1
Vitvi00g02142	1	Vitvi01g01017	1	Vitvi02g00662	1	Vitvi03g00629	1	Vitvi04g01318	1
Vitvi00g02156	1	Vitvi01g01026	1	Vitvi02g00673	1	Vitvi03g00631	1	Vitvi04g01334	1
Vitvi00g02178	1	Vitvi01g01492	1	Vitvi02g00688	1	Vitvi03g00634	1	Vitvi04g01390	1
Vitvi01g00012	1	Vitvi01g01502	1	Vitvi02g00757	1	Vitvi03g00712	1	Vitvi04g01402	1
Vitvi01g00033	1	Vitvi01g01563	1	Vitvi02g00995	1	Vitvi03g00723	1	Vitvi04g01439	1
Vitvi01g00053	1	Vitvi01g01576	1	Vitvi02g01210	1	Vitvi03g00770	1	Vitvi04g01442	1
Vitvi01g00115	1	Vitvi01g01631	1	Vitvi02g01232	1	Vitvi03g00842	1	Vitvi04g01466	1
Vitvi01g00121	1	Vitvi01g01701	1	Vitvi02g01397	1	Vitvi03g00852	1	Vitvi04g01484	1
Vitvi01g00122	1	Vitvi01g01703	1	Vitvi02g01507	1	Vitvi03g01016	1	Vitvi04g01503	1
Vitvi01g00136	1	Vitvi01g01710	1	Vitvi02g01716	1	Vitvi03g01047	1	Vitvi04g01520	1
Vitvi01g00265	1	Vitvi01g01730	1	Vitvi02g01726	1	Vitvi03g01097	1	Vitvi04g01550	1
Vitvi01g00278	1	Vitvi01g01782	1	Vitvi02g01736	1	Vitvi03g01337	1	Vitvi04g01576	1
Vitvi01g00280	1	Vitvi01g01788	1	Vitvi02g01762	1	Vitvi03g01399	1	Vitvi04g01579	1
Vitvi01g00292	1	Vitvi01g01789	1	Vitvi02g01808	1	Vitvi03g01489	1	Vitvi04g01733	1
Vitvi01g00325	1	Vitvi01g01805	1	Vitvi02g01811	1	Vitvi03g01503	1	Vitvi04g01785	1
Vitvi01g00331	1	Vitvi01g01821	1	Vitvi02g01833	1	Vitvi03g01516	1	Vitvi04g01791	1
Vitvi01g00385	1	Vitvi01g01834	1	Vitvi02g01839	1	Vitvi03g01602	1	Vitvi04g01824	1
Vitvi01g00401	1	Vitvi01g01883	1	Vitvi03g00035	1	Vitvi04g00050	1	Vitvi04g01836	1
Vitvi01g00444	1	Vitvi01g01922	1	Vitvi03g00046	1	Vitvi04g00112	1	Vitvi04g01906	1
Vitvi01g00467	1	Vitvi01g01923	1	Vitvi03g00179	1	Vitvi04g00117	1	Vitvi04g01909	1
Vitvi01g00473	1	Vitvi01g01973	1	Vitvi03g00185	1	Vitvi04g00195	1	Vitvi04g02092	1
Vitvi01g00487	1	Vitvi01g01981	1	Vitvi03g00186	1	Vitvi04g00251	1	Vitvi04g02122	1
Vitvi01g00492	1	Vitvi01g02057	1	Vitvi03g00187	1	Vitvi04g00263	1	Vitvi04g02123	1
Vitvi01g00497	1	Vitvi01g02081	1	Vitvi03g00200	1	Vitvi04g00267	1	Vitvi04g02192	1
Vitvi01g00502	1	Vitvi01g02099	1	Vitvi03g00205	1	Vitvi04g00294	1	Vitvi04g02194	1
Vitvi01g00567	1	Vitvi01g02272	1	Vitvi03g00223	1	Vitvi04g00346	1	Vitvi05g00032	1
Vitvi01g00593	1	Vitvi02g00016	1	Vitvi03g00227	1	Vitvi04g00347	1	Vitvi05g00040	1
Vitvi01g00598	1	Vitvi02g00106	1	Vitvi03g00242	1	Vitvi04g00390	1	Vitvi05g00062	1
Vitvi01g00629	1	Vitvi02g00118	1	Vitvi03g00260	1	Vitvi04g00410	1	Vitvi05g00100	1
Vitvi01g00631	1	Vitvi02g00125	1	Vitvi03g00285	1	Vitvi04g00436	1	Vitvi05g00124	1
Vitvi01g00638	1	Vitvi02g00145	1	Vitvi03g00292	1	Vitvi04g00442	1	Vitvi05g00169	1
Vitvi01g00646	1	Vitvi02g00155	1	Vitvi03g00306	1	Vitvi04g00465	1	Vitvi05g00250	1
Vitvi01g00689	1	Vitvi02g00182	1	Vitvi03g00310	1	Vitvi04g00466	1	Vitvi05g00256	1
Vitvi01g00722	1	Vitvi02g00211	1	Vitvi03g00319	1	Vitvi04g00490	1	Vitvi05g00260	1
Vitvi01g00799	1	Vitvi02g00221	1	Vitvi03g00339	1	Vitvi04g00501	1	Vitvi05g00285	1
Vitvi01g00800	1	Vitvi02g00248	1	Vitvi03g00352	1	Vitvi04g00503	1	Vitvi05g00317	1
Vitvi01g00814	1	Vitvi02g00291	1	Vitvi03g00389	1	Vitvi04g00585	1	Vitvi05g00351	1
Vitvi01g00816	1	Vitvi02g00295	1	Vitvi03g00405	1	Vitvi04g00600	1	Vitvi05g00355	1
Vitvi01g00867	1	Vitvi02g00296	1	Vitvi03g00429	1	Vitvi04g00662	1	Vitvi05g00368	1
Vitvi01g00876	1	Vitvi02g00309	1	Vitvi03g00483	1	Vitvi04g00771	1	Vitvi05g00386	1
Vitvi01g00883	1	Vitvi02g00310	1	Vitvi03g00519	1	Vitvi04g00897	1	Vitvi05g00392	1
Vitvi01g00907	1	Vitvi02g00423	1	Vitvi03g00537	1	Vitvi04g00932	1	Vitvi05g00426	1
Vitvi01g00916	1	Vitvi02g00485	1	Vitvi03g00542	1	Vitvi04g01095	1	Vitvi05g00490	1

Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi05g00503	1	Vitvi06g00121	1	Vitvi06g01850	1	Vitvi07g01643	1	Vitvi08g00041	1
Vitvi05g00512	1	Vitvi06g00134	1	Vitvi06g01852	1	Vitvi07g01684	1	Vitvi08g00110	1
Vitvi05g00548	1	Vitvi06g00278	1	Vitvi06g01927	1	Vitvi07g01703	1	Vitvi08g00142	1
Vitvi05g00565	1	Vitvi06g00284	1	Vitvi06g01942	1	Vitvi07g01705	1	Vitvi08g00223	1
Vitvi05g00612	1	Vitvi06g00285	1	Vitvi06g01945	1	Vitvi07g01722	1	Vitvi08g00656	1
Vitvi05g00736	1	Vitvi06g00319	1	Vitvi07g00030	1	Vitvi07g01732	1	Vitvi08g00662	1
Vitvi05g00759	1	Vitvi06g00331	1	Vitvi07g00064	1	Vitvi07g01739	1	Vitvi08g00672	1
Vitvi05g00765	1	Vitvi06g00375	1	Vitvi07g00066	1	Vitvi07g01750	1	Vitvi08g00755	1
Vitvi05g00784	1	Vitvi06g00411	1	Vitvi07g00167	1	Vitvi07g01760	1	Vitvi08g00864	1
Vitvi05g00822	1	Vitvi06g00423	1	Vitvi07g00173	1	Vitvi07g01777	1	Vitvi08g00878	1
Vitvi05g00938	1	Vitvi06g00437	1	Vitvi07g00191	1	Vitvi07g01829	1	Vitvi08g00933	1
Vitvi05g00953	1	Vitvi06g00463	1	Vitvi07g00241	1	Vitvi07g01830	1	Vitvi08g00934	1
Vitvi05g00960	1	Vitvi06g00483	1	Vitvi07g00255	1	Vitvi07g01840	1	Vitvi08g00961	1
Vitvi05g01073	1	Vitvi06g00542	1	Vitvi07g00282	1	Vitvi07g01861	1	Vitvi08g00982	1
Vitvi05g01103	1	Vitvi06g00558	1	Vitvi07g00299	1	Vitvi07g01906	1	Vitvi08g01014	1
Vitvi05g01116	1	Vitvi06g00587	1	Vitvi07g00351	1	Vitvi07g01951	1	Vitvi08g01038	1
Vitvi05g01193	1	Vitvi06g00598	1	Vitvi07g00389	1	Vitvi07g02005	1	Vitvi08g01056	1
Vitvi05g01317	1	Vitvi06g00633	1	Vitvi07g00393	1	Vitvi07g02049	1	Vitvi08g01069	1
Vitvi05g01319	1	Vitvi06g00648	1	Vitvi07g00402	1	Vitvi07g02050	1	Vitvi08g01081	1
Vitvi05g01366	1	Vitvi06g00693	1	Vitvi07g00424	1	Vitvi07g02074	1	Vitvi08g01085	1
Vitvi05g01380	1	Vitvi06g00699	1	Vitvi07g00465	1	Vitvi07g02159	1	Vitvi08g01098	1
Vitvi05g01469	1	Vitvi06g00715	1	Vitvi07g00599	1	Vitvi07g02436	1	Vitvi08g01140	1
Vitvi05g01518	1	Vitvi06g00733	1	Vitvi07g00600	1	Vitvi07g02447	1	Vitvi08g01153	1
Vitvi05g01545	1	Vitvi06g00759	1	Vitvi07g00617	1	Vitvi07g02504	1	Vitvi08g01209	1
Vitvi05g01546	1	Vitvi06g00810	1	Vitvi07g00628	1	Vitvi07g02582	1	Vitvi08g01211	1
Vitvi05g01547	1	Vitvi06g00812	1	Vitvi07g00635	1	Vitvi07g02638	1	Vitvi08g01215	1
Vitvi05g01562	1	Vitvi06g00832	1	Vitvi07g00674	1	Vitvi07g02667	1	Vitvi08g01237	1
Vitvi05g01580	1	Vitvi06g00903	1	Vitvi07g00683	1	Vitvi07g02683	1	Vitvi08g01276	1
Vitvi05g01621	1	Vitvi06g00918	1	Vitvi07g00685	1	Vitvi07g02691	1	Vitvi08g01296	1
Vitvi05g01639	1	Vitvi06g00922	1	Vitvi07g00718	1	Vitvi07g02692	1	Vitvi08g01320	1
Vitvi05g01641	1	Vitvi06g00999	1	Vitvi07g00786	1	Vitvi07g02830	1	Vitvi08g01333	1
Vitvi05g01668	1	Vitvi06g01020	1	Vitvi07g01104	1	Vitvi07g02832	1	Vitvi08g01346	1
Vitvi05g01675	1	Vitvi06g01033	1	Vitvi07g01113	1	Vitvi07g02881	1	Vitvi08g01353	1
Vitvi05g01682	1	Vitvi06g01091	1	Vitvi07g01128	1	Vitvi07g02904	1	Vitvi08g01378	1
Vitvi05g01700	1	Vitvi06g01144	1	Vitvi07g01164	1	Vitvi07g02943	1	Vitvi08g01384	1
Vitvi05g01751	1	Vitvi06g01239	1	Vitvi07g01255	1	Vitvi07g02980	1	Vitvi08g01394	1
Vitvi05g01858	1	Vitvi06g01318	1	Vitvi07g01276	1	Vitvi07g02998	1	Vitvi08g01410	1
Vitvi05g01871	1	Vitvi06g01323	1	Vitvi07g01313	1	Vitvi07g03041	1	Vitvi08g01438	1
Vitvi05g01879	1	Vitvi06g01349	1	Vitvi07g01357	1	Vitvi07g03056	1	Vitvi08g01514	1
Vitvi05g01933	1	Vitvi06g01354	1	Vitvi07g01406	1	Vitvi07g03063	1	Vitvi08g01521	1
Vitvi05g01958	1	Vitvi06g01388	1	Vitvi07g01423	1	Vitvi07g03064	1	Vitvi08g01523	1
Vitvi05g02124	1	Vitvi06g01389	1	Vitvi07g01424	1	Vitvi07g03066	1	Vitvi08g01602	1
Vitvi05g02184	1	Vitvi06g01404	1	Vitvi07g01431	1	Vitvi07g03077	1	Vitvi08g01639	1
Vitvi05g02230	1	Vitvi06g01460	1	Vitvi07g01500	1	Vitvi07g03085	1	Vitvi08g01641	1
Vitvi06g00016	1	Vitvi06g01476	1	Vitvi07g01564	1	Vitvi07g03123	1	Vitvi08g01708	1
Vitvi06g00047	1	Vitvi06g01494	1	Vitvi07g01566	1	Vitvi07g03161	1	Vitvi08g01711	1
Vitvi06g00063	1	Vitvi06g01518	1	Vitvi07g01593	1	Vitvi07g03176	1	Vitvi08g01731	1
Vitvi06g00085	1	Vitvi06g01740	1	Vitvi07g01599	1	Vitvi08g00011	1	Vitvi08g01740	1
Vitvi06g00110	1	Vitvi06g01847	1	Vitvi07g01627	1	Vitvi08g00012	1	Vitvi08g01762	1

Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi08g01836	1	Vitvi09g01914	1	Vitvi10g02331	1	Vitvi11g01702	1	Vitvi13g00123	1
Vitvi08g01866	1	Vitvi10g00052	1	Vitvi10g02332	1	Vitvi12g00032	1	Vitvi13g00156	1
Vitvi08g01924	1	Vitvi10g00078	1	Vitvi10g02347	1	Vitvi12g00037	1	Vitvi13g00182	1
Vitvi08g01963	1	Vitvi10g00091	1	Vitvi10g02350	1	Vitvi12g00109	1	Vitvi13g00188	1
Vitvi08g02097	1	Vitvi10g00095	1	Vitvi10g02412	1	Vitvi12g00284	1	Vitvi13g00246	1
Vitvi08g02102	1	Vitvi10g00104	1	Vitvi10g02415	1	Vitvi12g00304	1	Vitvi13g00255	1
Vitvi08g02109	1	Vitvi10g00114	1	Vitvi11g00062	1	Vitvi12g00349	1	Vitvi13g00325	1
Vitvi08g02232	1	Vitvi10g00133	1	Vitvi11g00071	1	Vitvi12g00355	1	Vitvi13g00343	1
Vitvi08g02317	1	Vitvi10g00159	1	Vitvi11g00074	1	Vitvi12g00369	1	Vitvi13g00352	1
Vitvi08g02331	1	Vitvi10g00177	1	Vitvi11g00131	1	Vitvi12g00377	1	Vitvi13g00521	1
Vitvi08g02360	1	Vitvi10g00191	1	Vitvi11g00191	1	Vitvi12g00380	1	Vitvi13g00577	1
Vitvi08g02382	1	Vitvi10g00193	1	Vitvi11g00193	1	Vitvi12g00403	1	Vitvi13g00589	1
Vitvi09g00006	1	Vitvi10g00247	1	Vitvi11g00224	1	Vitvi12g00404	1	Vitvi13g00602	1
Vitvi09g00068	1	Vitvi10g00287	1	Vitvi11g00274	1	Vitvi12g00429	1	Vitvi13g00658	1
Vitvi09g00129	1	Vitvi10g00299	1	Vitvi11g00304	1	Vitvi12g00430	1	Vitvi13g00673	1
Vitvi09g00150	1	Vitvi10g00343	1	Vitvi11g00327	1	Vitvi12g00475	1	Vitvi13g00705	1
Vitvi09g00177	1	Vitvi10g00408	1	Vitvi11g00328	1	Vitvi12g00484	1	Vitvi13g00886	1
Vitvi09g00179	1	Vitvi10g00414	1	Vitvi11g00335	1	Vitvi12g00502	1	Vitvi13g00981	1
Vitvi09g00180	1	Vitvi10g00426	1	Vitvi11g00348	1	Vitvi12g00520	1	Vitvi13g01008	1
Vitvi09g00190	1	Vitvi10g00444	1	Vitvi11g00356	1	Vitvi12g00556	1	Vitvi13g01137	1
Vitvi09g00211	1	Vitvi10g00487	1	Vitvi11g00360	1	Vitvi12g00573	1	Vitvi13g01233	1
Vitvi09g00225	1	Vitvi10g00503	1	Vitvi11g00409	1	Vitvi12g00647	1	Vitvi13g01340	1
Vitvi09g00284	1	Vitvi10g00564	1	Vitvi11g00415	1	Vitvi12g00665	1	Vitvi13g01395	1
Vitvi09g00335	1	Vitvi10g00626	1	Vitvi11g00438	1	Vitvi12g00686	1	Vitvi13g01545	1
Vitvi09g00336	1	Vitvi10g00661	1	Vitvi11g00442	1	Vitvi12g00721	1	Vitvi13g01642	1
Vitvi09g00399	1	Vitvi10g00719	1	Vitvi11g00446	1	Vitvi12g00745	1	Vitvi13g01649	1
Vitvi09g00431	1	Vitvi10g00755	1	Vitvi11g00560	1	Vitvi12g00753	1	Vitvi13g01710	1
Vitvi09g00438	1	Vitvi10g00774	1	Vitvi11g00584	1	Vitvi12g00760	1	Vitvi13g01713	1
Vitvi09g00439	1	Vitvi10g00824	1	Vitvi11g00633	1	Vitvi12g00770	1	Vitvi13g01724	1
Vitvi09g00484	1	Vitvi10g00948	1	Vitvi11g00655	1	Vitvi12g00868	1	Vitvi13g01727	1
Vitvi09g00492	1	Vitvi10g01005	1	Vitvi11g00671	1	Vitvi12g00883	1	Vitvi13g01738	1
Vitvi09g00595	1	Vitvi10g01020	1	Vitvi11g00686	1	Vitvi12g01611	1	Vitvi13g01760	1
Vitvi09g00603	1	Vitvi10g01093	1	Vitvi11g00809	1	Vitvi12g01684	1	Vitvi13g01761	1
Vitvi09g00758	1	Vitvi10g01116	1	Vitvi11g00814	1	Vitvi12g01685	1	Vitvi13g01819	1
Vitvi09g00760	1	Vitvi10g01293	1	Vitvi11g00900	1	Vitvi12g01808	1	Vitvi13g01837	1
Vitvi09g00965	1	Vitvi10g01359	1	Vitvi11g00969	1	Vitvi12g01873	1	Vitvi13g01898	1
Vitvi09g01012	1	Vitvi10g01664	1	Vitvi11g01134	1	Vitvi12g01894	1	Vitvi13g02012	1
Vitvi09g01025	1	Vitvi10g01666	1	Vitvi11g01136	1	Vitvi12g01902	1	Vitvi13g02013	1
Vitvi09g01155	1	Vitvi10g01682	1	Vitvi11g01205	1	Vitvi12g01975	1	Vitvi13g02358	1
Vitvi09g01233	1	Vitvi10g01709	1	Vitvi11g01212	1	Vitvi12g02011	1	Vitvi13g02471	1
Vitvi09g01236	1	Vitvi10g01724	1	Vitvi11g01239	1	Vitvi12g02137	1	Vitvi13g02560	1
Vitvi09g01274	1	Vitvi10g01771	1	Vitvi11g01243	1	Vitvi12g02334	1	Vitvi14g00007	1
Vitvi09g01298	1	Vitvi10g01835	1	Vitvi11g01329	1	Vitvi12g02477	1	Vitvi14g00040	1
Vitvi09g01300	1	Vitvi10g01892	1	Vitvi11g01337	1	Vitvi12g02757	1	Vitvi14g00092	1
Vitvi09g01397	1	Vitvi10g02055	1	Vitvi11g01342	1	Vitvi13g00012	1	Vitvi14g00107	1
Vitvi09g01500	1	Vitvi10g02151	1	Vitvi11g01343	1	Vitvi13g00048	1	Vitvi14g00137	1
Vitvi09g01518	1	Vitvi10g02257	1	Vitvi11g01405	1	Vitvi13g00053	1	Vitvi14g00161	1
Vitvi09g01548	1	Vitvi10g02269	1	Vitvi11g01421	1	Vitvi13g00054	1	Vitvi14g00163	1
Vitvi09g01600	1	Vitvi10g02276	1	Vitvi11g01506	1	Vitvi13g00092	1	Vitvi14g00195	1

Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi14g00215	1	Vitvi15g00046	1	Vitvi16g01195	1	Vitvi17g00803	1	Vitvi18g00666	1
Vitvi14g00239	1	Vitvi15g00452	1	Vitvi16g01229	1	Vitvi17g00809	1	Vitvi18g00667	1
Vitvi14g00258	1	Vitvi15g00507	1	Vitvi16g01241	1	Vitvi17g00869	1	Vitvi18g00684	1
Vitvi14g00259	1	Vitvi15g00563	1	Vitvi16g01306	1	Vitvi17g00919	1	Vitvi18g00730	1
Vitvi14g00407	1	Vitvi15g00577	1	Vitvi16g01323	1	Vitvi17g00928	1	Vitvi18g00768	1
Vitvi14g00471	1	Vitvi15g00728	1	Vitvi16g01324	1	Vitvi17g01011	1	Vitvi18g00851	1
Vitvi14g00535	1	Vitvi15g00753	1	Vitvi16g01328	1	Vitvi17g01012	1	Vitvi18g00863	1
Vitvi14g00615	1	Vitvi15g00816	1	Vitvi16g01330	1	Vitvi17g01098	1	Vitvi18g00881	1
Vitvi14g00742	1	Vitvi15g00877	1	Vitvi16g01337	1	Vitvi17g01370	1	Vitvi18g00922	1
Vitvi14g00821	1	Vitvi15g00912	1	Vitvi16g01347	1	Vitvi17g01391	1	Vitvi18g00924	1
Vitvi14g00952	1	Vitvi15g00919	1	Vitvi16g01395	1	Vitvi17g01414	1	Vitvi18g00960	1
Vitvi14g01023	1	Vitvi15g00943	1	Vitvi16g01412	1	Vitvi17g01493	1	Vitvi18g00961	1
Vitvi14g01128	1	Vitvi15g00959	1	Vitvi16g01514	1	Vitvi17g01495	1	Vitvi18g00964	1
Vitvi14g01208	1	Vitvi15g01000	1	Vitvi16g01541	1	Vitvi17g01511	1	Vitvi18g00970	1
Vitvi14g01247	1	Vitvi15g01011	1	Vitvi16g01603	1	Vitvi17g01562	1	Vitvi18g01004	1
Vitvi14g01292	1	Vitvi15g01024	1	Vitvi16g01732	1	Vitvi17g01576	1	Vitvi18g01022	1
Vitvi14g01301	1	Vitvi15g01034	1	Vitvi16g01752	1	Vitvi17g01598	1	Vitvi18g01034	1
Vitvi14g01358	1	Vitvi15g01062	1	Vitvi16g01753	1	Vitvi18g00009	1	Vitvi18g01098	1
Vitvi14g01435	1	Vitvi15g01072	1	Vitvi16g01943	1	Vitvi18g00043	1	Vitvi18g01114	1
Vitvi14g01438	1	Vitvi15g01103	1	Vitvi16g01958	1	Vitvi18g00054	1	Vitvi18g01144	1
Vitvi14g01503	1	Vitvi15g01109	1	Vitvi16g02119	1	Vitvi18g00056	1	Vitvi18g01221	1
Vitvi14g01576	1	Vitvi15g01110	1	Vitvi17g00012	1	Vitvi18g00068	1	Vitvi18g01268	1
Vitvi14g01662	1	Vitvi15g01188	1	Vitvi17g00015	1	Vitvi18g00076	1	Vitvi18g01426	1
Vitvi14g01698	1	Vitvi15g01247	1	Vitvi17g00030	1	Vitvi18g00137	1	Vitvi18g01436	1
Vitvi14g01699	1	Vitvi15g01251	1	Vitvi17g00031	1	Vitvi18g00139	1	Vitvi18g01527	1
Vitvi14g01732	1	Vitvi15g01619	1	Vitvi17g00041	1	Vitvi18g00176	1	Vitvi18g01604	1
Vitvi14g01751	1	Vitvi15g01640	1	Vitvi17g00046	1	Vitvi18g00262	1	Vitvi18g01648	1
Vitvi14g01773	1	Vitvi16g00007	1	Vitvi17g00056	1	Vitvi18g00263	1	Vitvi18g01682	1
Vitvi14g01786	1	Vitvi16g00093	1	Vitvi17g00061	1	Vitvi18g00267	1	Vitvi18g01691	1
Vitvi14g01806	1	Vitvi16g00116	1	Vitvi17g00062	1	Vitvi18g00272	1	Vitvi18g02004	1
Vitvi14g01821	1	Vitvi16g00181	1	Vitvi17g00070	1	Vitvi18g00283	1	Vitvi18g02063	1
Vitvi14g01874	1	Vitvi16g00182	1	Vitvi17g00103	1	Vitvi18g00286	1	Vitvi18g02130	1
Vitvi14g01888	1	Vitvi16g00630	1	Vitvi17g00139	1	Vitvi18g00294	1	Vitvi18g02221	1
Vitvi14g01928	1	Vitvi16g00692	1	Vitvi17g00169	1	Vitvi18g00310	1	Vitvi18g02555	1
Vitvi14g01959	1	Vitvi16g00707	1	Vitvi17g00189	1	Vitvi18g00322	1	Vitvi18g02559	1
Vitvi14g01960	1	Vitvi16g00711	1	Vitvi17g00192	1	Vitvi18g00371	1	Vitvi18g02574	1
Vitvi14g01992	1	Vitvi16g00741	1	Vitvi17g00279	1	Vitvi18g00376	1	Vitvi18g02653	1
Vitvi14g01994	1	Vitvi16g00793	1	Vitvi17g00350	1	Vitvi18g00397	1	Vitvi18g02961	1
Vitvi14g01995	1	Vitvi16g00811	1	Vitvi17g00367	1	Vitvi18g00407	1	Vitvi18g02962	1
Vitvi14g02010	1	Vitvi16g00891	1	Vitvi17g00427	1	Vitvi18g00442	1	Vitvi18g02975	1
Vitvi14g02032	1	Vitvi16g00976	1	Vitvi17g00442	1	Vitvi18g00490	1	Vitvi18g02996	1
Vitvi14g02474	1	Vitvi16g01029	1	Vitvi17g00447	1	Vitvi18g00492	1	Vitvi18g03100	1
Vitvi14g02487	1	Vitvi16g01034	1	Vitvi17g00494	1	Vitvi18g00505	1	Vitvi18g03101	1
Vitvi14g02637	1	Vitvi16g01035	1	Vitvi17g00503	1	Vitvi18g00518	1	Vitvi18g03112	1
Vitvi14g02924	1	Vitvi16g01073	1	Vitvi17g00533	1	Vitvi18g00563	1	Vitvi19g00010	1
Vitvi14g02949	1	Vitvi16g01094	1	Vitvi17g00534	1	Vitvi18g00565	1	Vitvi19g00025	1
Vitvi14g02985	1	Vitvi16g01099	1	Vitvi17g00627	1	Vitvi18g00590	1	Vitvi19g00045	1
Vitvi14g02997	1	Vitvi16g01142	1	Vitvi17g00752	1	Vitvi18g00628	1	Vitvi19g00066	1
Vitvi14g03002	1	Vitvi16g01144	1	Vitvi17g00759	1	Vitvi18g00634	1	Vitvi19g00073	1

Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi19g00147	1	Vitvi01g00397	2	Vitvi03g00647	2	Vitvi05g01710	2	Vitvi07g00629	2
Vitvi19g00221	1	Vitvi01g00483	2	Vitvi03g00706	2	Vitvi05g01748	2	Vitvi07g00724	2
Vitvi19g00222	1	Vitvi01g00735	2	Vitvi03g00895	2	Vitvi05g01752	2	Vitvi07g01213	2
Vitvi19g00291	1	Vitvi01g00797	2	Vitvi03g01173	2	Vitvi05g01824	2	Vitvi07g01277	2
Vitvi19g00366	1	Vitvi01g01055	2	Vitvi03g01203	2	Vitvi06g00009	2	Vitvi07g01282	2
Vitvi19g00407	1	Vitvi01g01169	2	Vitvi03g01371	2	Vitvi06g00033	2	Vitvi07g01395	2
Vitvi19g00469	1	Vitvi01g01677	2	Vitvi03g01426	2	Vitvi06g00060	2	Vitvi07g01634	2
Vitvi19g00481	1	Vitvi01g01750	2	Vitvi03g01592	2	Vitvi06g00064	2	Vitvi07g01674	2
Vitvi19g00497	1	Vitvi01g01846	2	Vitvi04g00035	2	Vitvi06g00089	2	Vitvi07g01796	2
Vitvi19g00551	1	Vitvi01g01859	2	Vitvi04g00046	2	Vitvi06g00101	2	Vitvi07g01808	2
Vitvi19g00572	1	Vitvi01g01960	2	Vitvi04g00134	2	Vitvi06g00108	2	Vitvi07g01846	2
Vitvi19g00591	1	Vitvi01g01980	2	Vitvi04g00221	2	Vitvi06g00136	2	Vitvi07g01896	2
Vitvi19g00596	1	Vitvi01g02048	2	Vitvi04g00321	2	Vitvi06g00200	2	Vitvi07g01902	2
Vitvi19g00604	1	Vitvi01g02299	2	Vitvi04g00352	2	Vitvi06g00201	2	Vitvi07g01923	2
Vitvi19g00619	1	Vitvi02g00030	2	Vitvi04g00734	2	Vitvi06g00213	2	Vitvi07g02201	2
Vitvi19g00620	1	Vitvi02g00032	2	Vitvi04g00870	2	Vitvi06g00281	2	Vitvi07g02243	2
Vitvi19g00707	1	Vitvi02g00146	2	Vitvi04g01097	2	Vitvi06g00562	2	Vitvi07g02244	2
Vitvi19g01005	1	Vitvi02g00153	2	Vitvi04g01198	2	Vitvi06g00641	2	Vitvi07g02391	2
Vitvi19g01032	1	Vitvi02g00256	2	Vitvi04g01228	2	Vitvi06g00743	2	Vitvi07g02392	2
Vitvi19g01432	1	Vitvi02g00260	2	Vitvi04g01324	2	Vitvi06g00761	2	Vitvi07g02402	2
Vitvi19g01695	1	Vitvi02g00415	2	Vitvi04g01392	2	Vitvi06g00784	2	Vitvi07g02404	2
Vitvi19g01712	1	Vitvi02g00565	2	Vitvi04g01424	2	Vitvi06g00814	2	Vitvi07g02589	2
Vitvi19g01715	1	Vitvi02g00642	2	Vitvi04g01564	2	Vitvi06g00994	2	Vitvi07g02633	2
Vitvi19g01742	1	Vitvi02g00684	2	Vitvi04g01591	2	Vitvi06g01011	2	Vitvi07g02649	2
Vitvi19g01767	1	Vitvi02g00855	2	Vitvi04g01728	2	Vitvi06g01134	2	Vitvi07g02811	2
Vitvi19g01880	1	Vitvi02g01139	2	Vitvi04g01740	2	Vitvi06g01251	2	Vitvi07g02814	2
Vitvi19g02074	1	Vitvi02g01179	2	Vitvi04g01742	2	Vitvi06g01298	2	Vitvi07g02971	2
Vitvi19g02108	1	Vitvi02g01365	2	Vitvi04g01746	2	Vitvi06g01315	2	Vitvi07g02978	2
Vitvi19g02141	1	Vitvi02g01424	2	Vitvi04g01854	2	Vitvi06g01327	2	Vitvi07g02996	2
Vitvi19g02165	1	Vitvi02g01429	2	Vitvi04g02027	2	Vitvi06g01339	2	Vitvi07g03002	2
Vitvi19g02355	1	Vitvi02g01450	2	Vitvi04g02246	2	Vitvi06g01346	2	Vitvi07g03044	2
Vitvi00g00711	2	Vitvi02g01630	2	Vitvi04g02247	2	Vitvi06g01358	2	Vitvi07g03087	2
Vitvi00g00789	2	Vitvi02g01720	2	Vitvi05g00067	2	Vitvi06g01469	2	Vitvi07g03090	2
Vitvi00g00869	2	Vitvi02g01814	2	Vitvi05g00115	2	Vitvi06g01485	2	Vitvi07g03127	2
Vitvi00g01018	2	Vitvi03g00053	2	Vitvi05g00117	2	Vitvi06g01541	2	Vitvi07g03148	2
Vitvi00g01355	2	Vitvi03g00180	2	Vitvi05g00246	2	Vitvi06g01597	2	Vitvi07g03169	2
Vitvi00g02082	2	Vitvi03g00181	2	Vitvi05g00290	2	Vitvi06g01644	2	Vitvi08g00005	2
Vitvi00g02237	2	Vitvi03g00216	2	Vitvi05g00390	2	Vitvi06g01654	2	Vitvi08g00053	2
Vitvi01g00052	2	Vitvi03g00340	2	Vitvi05g00409	2	Vitvi06g01693	2	Vitvi08g00186	2
Vitvi01g00055	2	Vitvi03g00359	2	Vitvi05g00435	2	Vitvi06g01827	2	Vitvi08g00875	2
Vitvi01g00070	2	Vitvi03g00458	2	Vitvi05g00472	2	Vitvi07g00045	2	Vitvi08g00937	2
Vitvi01g00113	2	Vitvi03g00475	2	Vitvi05g00497	2	Vitvi07g00091	2	Vitvi08g00960	2
Vitvi01g00139	2	Vitvi03g00476	2	Vitvi05g00549	2	Vitvi07g00092	2	Vitvi08g01010	2
Vitvi01g00149	2	Vitvi03g00531	2	Vitvi05g00650	2	Vitvi07g00285	2	Vitvi08g01059	2
Vitvi01g00173	2	Vitvi03g00540	2	Vitvi05g00652	2	Vitvi07g00362	2	Vitvi08g01071	2
Vitvi01g00182	2	Vitvi03g00545	2	Vitvi05g00975	2	Vitvi07g00412	2	Vitvi08g01102	2
Vitvi01g00259	2	Vitvi03g00564	2	Vitvi05g01038	2	Vitvi07g00477	2	Vitvi08g01143	2
Vitvi01g00340	2	Vitvi03g00604	2	Vitvi05g01565	2	Vitvi07g00589	2	Vitvi08g01297	2
Vitvi01g00380	2	Vitvi03g00610	2	Vitvi05g01660	2	Vitvi07g00621	2	Vitvi08g01357	2

Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi08g01459	2	Vitvi10g01613	2	Vitvi12g02698	2	Vitvi15g00424	2	Vitvi17g01251	2
Vitvi08g01483	2	Vitvi10g01646	2	Vitvi13g00105	2	Vitvi15g00614	2	Vitvi17g01378	2
Vitvi08g01586	2	Vitvi10g01757	2	Vitvi13g00206	2	Vitvi15g00636	2	Vitvi18g00002	2
Vitvi08g01627	2	Vitvi10g01764	2	Vitvi13g00214	2	Vitvi15g00744	2	Vitvi18g00050	2
Vitvi08g01783	2	Vitvi10g02085	2	Vitvi13g00235	2	Vitvi15g00766	2	Vitvi18g00111	2
Vitvi08g01808	2	Vitvi10g02139	2	Vitvi13g00351	2	Vitvi15g00781	2	Vitvi18g00142	2
Vitvi08g01857	2	Vitvi10g02201	2	Vitvi13g00503	2	Vitvi15g00925	2	Vitvi18g00473	2
Vitvi08g01867	2	Vitvi10g02262	2	Vitvi13g00590	2	Vitvi15g01008	2	Vitvi18g00566	2
Vitvi08g02086	2	Vitvi10g02264	2	Vitvi13g00606	2	Vitvi15g01088	2	Vitvi18g00639	2
Vitvi08g02265	2	Vitvi10g02288	2	Vitvi13g00646	2	Vitvi15g01091	2	Vitvi18g00682	2
Vitvi08g02285	2	Vitvi10g02357	2	Vitvi13g00716	2	Vitvi15g01503	2	Vitvi18g00693	2
Vitvi08g02298	2	Vitvi10g02374	2	Vitvi13g00745	2	Vitvi15g01629	2	Vitvi18g00758	2
Vitvi08g02345	2	Vitvi10g02398	2	Vitvi13g00747	2	Vitvi15g01736	2	Vitvi18g00927	2
Vitvi08g02369	2	Vitvi11g00079	2	Vitvi13g00858	2	Vitvi16g00021	2	Vitvi18g01084	2
Vitvi09g00052	2	Vitvi11g00086	2	Vitvi13g00872	2	Vitvi16g00069	2	Vitvi18g01314	2
Vitvi09g00056	2	Vitvi11g00136	2	Vitvi13g01022	2	Vitvi16g00154	2	Vitvi18g01572	2
Vitvi09g00082	2	Vitvi11g00142	2	Vitvi13g01417	2	Vitvi16g00160	2	Vitvi18g01988	2
Vitvi09g00083	2	Vitvi11g00147	2	Vitvi13g01481	2	Vitvi16g00591	2	Vitvi18g02248	2
Vitvi09g00217	2	Vitvi11g00157	2	Vitvi13g01660	2	Vitvi16g00744	2	Vitvi18g02319	2
Vitvi09g00220	2	Vitvi11g00237	2	Vitvi13g01831	2	Vitvi16g00867	2	Vitvi18g02391	2
Vitvi09g00226	2	Vitvi11g00272	2	Vitvi13g01967	2	Vitvi16g00895	2	Vitvi18g02477	2
Vitvi09g00285	2	Vitvi11g00303	2	Vitvi13g02145	2	Vitvi16g01004	2	Vitvi18g02536	2
Vitvi09g00329	2	Vitvi11g00341	2	Vitvi13g02472	2	Vitvi16g01024	2	Vitvi18g02677	2
Vitvi09g01024	2	Vitvi11g00366	2	Vitvi13g02561	2	Vitvi16g01031	2	Vitvi18g02836	2
Vitvi09g01304	2	Vitvi11g00390	2	Vitvi14g00114	2	Vitvi16g01155	2	Vitvi18g03376	2
Vitvi09g01317	2	Vitvi11g00429	2	Vitvi14g00238	2	Vitvi16g01158	2	Vitvi18g03400	2
Vitvi09g01388	2	Vitvi11g00657	2	Vitvi14g00288	2	Vitvi16g01285	2	Vitvi19g00041	2
Vitvi09g01567	2	Vitvi11g00677	2	Vitvi14g00424	2	Vitvi16g01320	2	Vitvi19g00164	2
Vitvi09g01615	2	Vitvi11g00778	2	Vitvi14g00437	2	Vitvi16g01417	2	Vitvi19g00423	2
Vitvi09g01685	2	Vitvi11g00865	2	Vitvi14g00508	2	Vitvi16g01538	2	Vitvi19g00482	2
Vitvi09g01710	2	Vitvi11g00916	2	Vitvi14g01157	2	Vitvi16g01540	2	Vitvi19g00501	2
Vitvi09g01811	2	Vitvi11g01208	2	Vitvi14g01224	2	Vitvi16g01731	2	Vitvi19g00695	2
Vitvi10g00122	2	Vitvi11g01298	2	Vitvi14g01464	2	Vitvi16g01795	2	Vitvi19g00697	2
Vitvi10g00188	2	Vitvi11g01442	2	Vitvi14g01530	2	Vitvi16g01939	2	Vitvi19g01338	2
Vitvi10g00204	2	Vitvi11g01499	2	Vitvi14g01629	2	Vitvi16g02084	2	Vitvi19g01381	2
Vitvi10g00241	2	Vitvi12g00093	2	Vitvi14g01636	2	Vitvi17g00017	2	Vitvi19g01703	2
Vitvi10g00368	2	Vitvi12g00185	2	Vitvi14g01657	2	Vitvi17g00096	2	Vitvi19g01738	2
Vitvi10g00394	2	Vitvi12g00262	2	Vitvi14g01748	2	Vitvi17g00147	2	Vitvi19g01830	2
Vitvi10g00442	2	Vitvi12g00303	2	Vitvi14g01769	2	Vitvi17g00256	2	Vitvi19g01852	2
Vitvi10g00470	2	Vitvi12g00326	2	Vitvi14g02011	2	Vitvi17g00314	2	Vitvi19g01996	2
Vitvi10g00577	2	Vitvi12g00360	2	Vitvi14g02561	2	Vitvi17g00348	2	Vitvi19g02011	2
Vitvi10g00604	2	Vitvi12g00467	2	Vitvi14g02586	2	Vitvi17g00528	2	Vitvi19g02045	2
Vitvi10g00639	2	Vitvi12g00639	2	Vitvi14g02608	2	Vitvi17g00630	2	Vitvi19g02059	2
Vitvi10g00694	2	Vitvi12g00769	2	Vitvi14g02616	2	Vitvi17g00671	2	Vitvi19g02085	2
Vitvi10g00716	2	Vitvi12g00825	2	Vitvi14g02630	2	Vitvi17g00954	2	Vitvi00g00671	3
Vitvi10g00934	2	Vitvi12g00958	2	Vitvi14g02894	2	Vitvi17g00985	2	Vitvi01g00048	3
Vitvi10g00947	2	Vitvi12g01976	2	Vitvi14g02946	2	Vitvi17g00991	2	Vitvi01g00199	3
Vitvi10g01077	2	Vitvi12g02040	2	Vitvi15g00005	2	Vitvi17g01104	2	Vitvi01g00300	3
Vitvi10g01099	2	Vitvi12g02299	2	Vitvi15g00263	2	Vitvi17g01148	2	Vitvi01g00343	3

Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi01g00478	3	Vitvi04g01685	3	Vitvi08g01993	3	Vitvi13g01572	3	Vitvi18g02355	3
Vitvi01g00672	3	Vitvi04g01686	3	Vitvi09g00031	3	Vitvi13g01720	3	Vitvi18g02365	3
Vitvi01g00845	3	Vitvi04g01723	3	Vitvi09g00122	3	Vitvi13g02067	3	Vitvi18g02488	3
Vitvi01g00864	3	Vitvi04g02171	3	Vitvi09g00127	3	Vitvi14g00033	3	Vitvi18g02538	3
Vitvi01g00932	3	Vitvi05g00540	3	Vitvi09g00246	3	Vitvi14g00180	3	Vitvi18g02647	3
Vitvi01g01018	3	Vitvi05g00618	3	Vitvi09g00386	3	Vitvi14g00977	3	Vitvi18g02724	3
Vitvi01g01662	3	Vitvi05g00670	3	Vitvi09g00436	3	Vitvi14g01178	3	Vitvi18g02754	3
Vitvi01g01682	3	Vitvi05g00726	3	Vitvi09g00437	3	Vitvi14g01489	3	Vitvi18g02973	3
Vitvi01g01719	3	Vitvi05g00737	3	Vitvi09g00837	3	Vitvi14g01552	3	Vitvi19g00150	3
Vitvi01g01726	3	Vitvi05g00761	3	Vitvi09g01251	3	Vitvi14g01574	3	Vitvi19g00237	3
Vitvi01g01845	3	Vitvi05g01334	3	Vitvi09g01301	3	Vitvi14g01633	3	Vitvi19g00271	3
Vitvi01g01855	3	Vitvi05g01336	3	Vitvi09g01598	3	Vitvi14g01800	3	Vitvi19g00304	3
Vitvi01g01955	3	Vitvi05g01361	3	Vitvi10g00029	3	Vitvi14g01828	3	Vitvi19g00441	3
Vitvi01g02009	3	Vitvi05g01381	3	Vitvi10g00030	3	Vitvi14g01829	3	Vitvi19g00477	3
Vitvi01g02092	3	Vitvi05g01937	3	Vitvi10g00353	3	Vitvi14g01909	3	Vitvi19g00581	3
Vitvi01g02316	3	Vitvi05g01946	3	Vitvi10g00358	3	Vitvi14g02002	3	Vitvi19g00713	3
Vitvi02g00022	3	Vitvi05g02044	3	Vitvi10g00452	3	Vitvi14g02984	3	Vitvi19g00775	3
Vitvi02g00073	3	Vitvi05g02121	3	Vitvi10g00601	3	Vitvi15g00643	3	Vitvi19g00782	3
Vitvi02g00117	3	Vitvi05g02249	3	Vitvi10g00819	3	Vitvi15g00785	3	Vitvi19g00922	3
Vitvi02g00270	3	Vitvi06g00263	3	Vitvi10g00839	3	Vitvi15g00936	3	Vitvi19g01747	3
Vitvi02g00386	3	Vitvi06g00342	3	Vitvi10g01219	3	Vitvi15g00997	3	Vitvi19g01878	3
Vitvi02g00417	3	Vitvi06g00606	3	Vitvi10g01502	3	Vitvi15g01048	3	Vitvi19g01879	3
Vitvi02g00991	3	Vitvi06g00607	3	Vitvi10g01989	3	Vitvi15g01505	3	Vitvi19g02010	3
Vitvi02g01067	3	Vitvi06g00678	3	Vitvi10g02302	3	Vitvi15g01555	3	Vitvi19g02032	3
Vitvi02g01284	3	Vitvi06g00966	3	Vitvi11g00061	3	Vitvi15g01568	3	Vitvi19g02038	3
Vitvi02g01286	3	Vitvi06g01010	3	Vitvi11g00076	3	Vitvi16g00048	3	Vitvi19g02040	3
Vitvi02g01290	3	Vitvi06g01283	3	Vitvi11g00234	3	Vitvi16g00817	3	Vitvi19g02052	3
Vitvi02g01405	3	Vitvi06g01471	3	Vitvi11g00493	3	Vitvi16g01206	3	Vitvi00g00813	4
Vitvi02g01406	3	Vitvi06g01769	3	Vitvi11g00527	3	Vitvi16g01339	3	Vitvi00g00814	4
Vitvi03g00233	3	Vitvi07g00250	3	Vitvi11g00535	3	Vitvi16g01405	3	Vitvi00g00816	4
Vitvi03g00426	3	Vitvi07g00265	3	Vitvi11g00583	3	Vitvi16g02059	3	Vitvi00g00894	4
Vitvi03g00442	3	Vitvi07g00347	3	Vitvi11g00728	3	Vitvi16g02085	3	Vitvi00g01243	4
Vitvi03g00464	3	Vitvi07g00432	3	Vitvi11g00786	3	Vitvi17g00116	3	Vitvi00g01285	4
Vitvi03g00539	3	Vitvi07g01160	3	Vitvi11g00828	3	Vitvi17g00163	3	Vitvi00g01319	4
Vitvi03g00547	3	Vitvi07g01428	3	Vitvi12g00915	3	Vitvi17g00438	3	Vitvi00g01382	4
Vitvi03g00589	3	Vitvi07g01870	3	Vitvi12g01624	3	Vitvi17g00987	3	Vitvi00g01970	4
Vitvi03g01288	3	Vitvi07g02253	3	Vitvi12g01877	3	Vitvi17g01016	3	Vitvi00g01978	4
Vitvi03g01290	3	Vitvi07g02861	3	Vitvi12g01880	3	Vitvi18g00120	3	Vitvi00g02141	4
Vitvi03g01423	3	Vitvi07g03150	3	Vitvi12g01882	3	Vitvi18g00192	3	Vitvi01g00058	4
Vitvi03g01543	3	Vitvi08g00219	3	Vitvi12g01936	3	Vitvi18g00274	3	Vitvi01g00062	4
Vitvi04g00058	3	Vitvi08g00730	3	Vitvi12g02472	3	Vitvi18g00506	3	Vitvi01g00067	4
Vitvi04g00292	3	Vitvi08g00954	3	Vitvi12g02685	3	Vitvi18g00706	3	Vitvi01g00091	4
Vitvi04g00736	3	Vitvi08g01042	3	Vitvi13g00150	3	Vitvi18g00789	3	Vitvi01g00103	4
Vitvi04g01266	3	Vitvi08g01054	3	Vitvi13g00199	3	Vitvi18g00917	3	Vitvi01g00112	4
Vitvi04g01302	3	Vitvi08g01104	3	Vitvi13g00516	3	Vitvi18g01072	3	Vitvi01g00114	4
Vitvi04g01422	3	Vitvi08g01232	3	Vitvi13g00677	3	Vitvi18g01135	3	Vitvi01g00124	4
Vitvi04g01470	3	Vitvi08g01510	3	Vitvi13g00687	3	Vitvi18g01294	3	Vitvi01g00131	4
Vitvi04g01471	3	Vitvi08g01843	3	Vitvi13g01423	3	Vitvi18g01295	3	Vitvi01g00142	4
Vitvi04g01684	3	Vitvi08g01847	3	Vitvi13g01462	3	Vitvi18g02230	3	Vitvi01g00152	4



Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi01g00161	4	Vitvi01g00852	4	Vitvi01g01972	4	Vitvi02g00398	4	Vitvi02g01370	4
Vitvi01g00168	4	Vitvi01g00857	4	Vitvi01g01983	4	Vitvi02g00420	4	Vitvi02g01409	4
Vitvi01g00169	4	Vitvi01g00868	4	Vitvi01g02053	4	Vitvi02g00421	4	Vitvi02g01414	4
Vitvi01g00187	4	Vitvi01g00889	4	Vitvi01g02056	4	Vitvi02g00435	4	Vitvi02g01523	4
Vitvi01g00220	4	Vitvi01g00898	4	Vitvi01g02061	4	Vitvi02g00444	4	Vitvi02g01640	4
Vitvi01g00226	4	Vitvi01g00928	4	Vitvi01g02080	4	Vitvi02g00446	4	Vitvi02g01683	4
Vitvi01g00227	4	Vitvi01g00970	4	Vitvi01g02083	4	Vitvi02g00448	4	Vitvi02g01721	4
Vitvi01g00255	4	Vitvi01g00993	4	Vitvi01g02085	4	Vitvi02g00468	4	Vitvi02g01747	4
Vitvi01g00271	4	Vitvi01g01013	4	Vitvi01g02091	4	Vitvi02g00479	4	Vitvi02g01753	4
Vitvi01g00279	4	Vitvi01g01031	4	Vitvi01g02132	4	Vitvi02g00482	4	Vitvi02g01778	4
Vitvi01g00281	4	Vitvi01g01137	4	Vitvi01g02298	4	Vitvi02g00524	4	Vitvi02g01780	4
Vitvi01g00287	4	Vitvi01g01368	4	Vitvi02g00013	4	Vitvi02g00542	4	Vitvi02g01826	4
Vitvi01g00291	4	Vitvi01g01390	4	Vitvi02g00018	4	Vitvi02g00554	4	Vitvi02g01841	4
Vitvi01g00299	4	Vitvi01g01436	4	Vitvi02g00029	4	Vitvi02g00585	4	Vitvi03g00001	4
Vitvi01g00339	4	Vitvi01g01439	4	Vitvi02g00044	4	Vitvi02g00593	4	Vitvi03g00002	4
Vitvi01g00362	4	Vitvi01g01457	4	Vitvi02g00045	4	Vitvi02g00633	4	Vitvi03g00004	4
Vitvi01g00376	4	Vitvi01g01488	4	Vitvi02g00065	4	Vitvi02g00645	4	Vitvi03g00015	4
Vitvi01g00386	4	Vitvi01g01528	4	Vitvi02g00067	4	Vitvi02g00663	4	Vitvi03g00021	4
Vitvi01g00390	4	Vitvi01g01529	4	Vitvi02g00075	4	Vitvi02g00669	4	Vitvi03g00041	4
Vitvi01g00391	4	Vitvi01g01538	4	Vitvi02g00078	4	Vitvi02g00696	4	Vitvi03g00042	4
Vitvi01g00417	4	Vitvi01g01540	4	Vitvi02g00079	4	Vitvi02g00698	4	Vitvi03g00043	4
Vitvi01g00446	4	Vitvi01g01578	4	Vitvi02g00080	4	Vitvi02g00703	4	Vitvi03g00054	4
Vitvi01g00453	4	Vitvi01g01624	4	Vitvi02g00103	4	Vitvi02g00717	4	Vitvi03g00055	4
Vitvi01g00454	4	Vitvi01g01650	4	Vitvi02g00109	4	Vitvi02g00723	4	Vitvi03g00061	4
Vitvi01g00474	4	Vitvi01g01655	4	Vitvi02g00129	4	Vitvi02g00729	4	Vitvi03g00080	4
Vitvi01g00499	4	Vitvi01g01664	4	Vitvi02g00137	4	Vitvi02g00737	4	Vitvi03g00087	4
Vitvi01g00511	4	Vitvi01g01683	4	Vitvi02g00160	4	Vitvi02g00773	4	Vitvi03g00104	4
Vitvi01g00530	4	Vitvi01g01686	4	Vitvi02g00161	4	Vitvi02g00777	4	Vitvi03g00105	4
Vitvi01g00539	4	Vitvi01g01700	4	Vitvi02g00191	4	Vitvi02g00790	4	Vitvi03g00107	4
Vitvi01g00552	4	Vitvi01g01718	4	Vitvi02g00204	4	Vitvi02g00792	4	Vitvi03g00114	4
Vitvi01g00568	4	Vitvi01g01720	4	Vitvi02g00205	4	Vitvi02g00802	4	Vitvi03g00116	4
Vitvi01g00571	4	Vitvi01g01722	4	Vitvi02g00209	4	Vitvi02g00975	4	Vitvi03g00121	4
Vitvi01g00590	4	Vitvi01g01734	4	Vitvi02g00210	4	Vitvi02g00983	4	Vitvi03g00131	4
Vitvi01g00595	4	Vitvi01g01737	4	Vitvi02g00213	4	Vitvi02g01015	4	Vitvi03g00133	4
Vitvi01g00626	4	Vitvi01g01756	4	Vitvi02g00219	4	Vitvi02g01019	4	Vitvi03g00135	4
Vitvi01g00630	4	Vitvi01g01763	4	Vitvi02g00222	4	Vitvi02g01024	4	Vitvi03g00139	4
Vitvi01g00632	4	Vitvi01g01770	4	Vitvi02g00246	4	Vitvi02g01152	4	Vitvi03g00147	4
Vitvi01g00633	4	Vitvi01g01776	4	Vitvi02g00247	4	Vitvi02g01153	4	Vitvi03g00197	4
Vitvi01g00648	4	Vitvi01g01777	4	Vitvi02g00251	4	Vitvi02g01171	4	Vitvi03g00224	4
Vitvi01g00652	4	Vitvi01g01790	4	Vitvi02g00284	4	Vitvi02g01172	4	Vitvi03g00229	4
Vitvi01g00660	4	Vitvi01g01800	4	Vitvi02g00297	4	Vitvi02g01193	4	Vitvi03g00257	4
Vitvi01g00698	4	Vitvi01g01841	4	Vitvi02g00298	4	Vitvi02g01201	4	Vitvi03g00262	4
Vitvi01g00714	4	Vitvi01g01856	4	Vitvi02g00301	4	Vitvi02g01224	4	Vitvi03g00286	4
Vitvi01g00729	4	Vitvi01g01881	4	Vitvi02g00303	4	Vitvi02g01267	4	Vitvi03g00288	4
Vitvi01g00772	4	Vitvi01g01892	4	Vitvi02g00333	4	Vitvi02g01273	4	Vitvi03g00308	4
Vitvi01g00782	4	Vitvi01g01924	4	Vitvi02g00338	4	Vitvi02g01275	4	Vitvi03g00314	4
Vitvi01g00788	4	Vitvi01g01938	4	Vitvi02g00373	4	Vitvi02g01310	4	Vitvi03g00335	4
Vitvi01g00826	4	Vitvi01g01954	4	Vitvi02g00374	4	Vitvi02g01328	4	Vitvi03g00349	4
Vitvi01g00833	4	Vitvi01g01971	4	Vitvi02g00384	4	Vitvi02g01337	4	Vitvi03g00355	4

Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi03g00374	4	Vitvi03g01703	4	Vitvi04g00764	4	Vitvi04g01789	4	Vitvi05g00406	4
Vitvi03g00377	4	Vitvi03g01805	4	Vitvi04g00781	4	Vitvi04g01792	4	Vitvi05g00413	4
Vitvi03g00395	4	Vitvi03g01816	4	Vitvi04g00796	4	Vitvi04g01793	4	Vitvi05g00419	4
Vitvi03g00398	4	Vitvi03g01897	4	Vitvi04g00847	4	Vitvi04g01794	4	Vitvi05g00439	4
Vitvi03g00431	4	Vitvi04g00037	4	Vitvi04g00880	4	Vitvi04g01795	4	Vitvi05g00458	4
Vitvi03g00432	4	Vitvi04g00042	4	Vitvi04g00908	4	Vitvi04g01796	4	Vitvi05g00461	4
Vitvi03g00435	4	Vitvi04g00045	4	Vitvi04g01024	4	Vitvi04g01797	4	Vitvi05g00462	4
Vitvi03g00441	4	Vitvi04g00047	4	Vitvi04g01044	4	Vitvi04g01799	4	Vitvi05g00463	4
Vitvi03g00452	4	Vitvi04g00052	4	Vitvi04g01100	4	Vitvi04g01801	4	Vitvi05g00475	4
Vitvi03g00454	4	Vitvi04g00066	4	Vitvi04g01124	4	Vitvi04g01802	4	Vitvi05g00486	4
Vitvi03g00469	4	Vitvi04g00067	4	Vitvi04g01126	4	Vitvi04g01805	4	Vitvi05g00500	4
Vitvi03g00471	4	Vitvi04g00098	4	Vitvi04g01161	4	Vitvi04g01853	4	Vitvi05g00560	4
Vitvi03g00473	4	Vitvi04g00105	4	Vitvi04g01192	4	Vitvi04g01976	4	Vitvi05g00563	4
Vitvi03g00479	4	Vitvi04g00121	4	Vitvi04g01193	4	Vitvi04g01994	4	Vitvi05g00569	4
Vitvi03g00486	4	Vitvi04g00128	4	Vitvi04g01196	4	Vitvi04g02039	4	Vitvi05g00599	4
Vitvi03g00495	4	Vitvi04g00132	4	Vitvi04g01208	4	Vitvi04g02101	4	Vitvi05g00619	4
Vitvi03g00499	4	Vitvi04g00135	4	Vitvi04g01209	4	Vitvi04g02108	4	Vitvi05g00624	4
Vitvi03g00515	4	Vitvi04g00152	4	Vitvi04g01230	4	Vitvi04g02157	4	Vitvi05g00632	4
Vitvi03g00523	4	Vitvi04g00162	4	Vitvi04g01237	4	Vitvi04g02243	4	Vitvi05g00639	4
Vitvi03g00527	4	Vitvi04g00181	4	Vitvi04g01247	4	Vitvi04g02280	4	Vitvi05g00661	4
Vitvi03g00530	4	Vitvi04g00202	4	Vitvi04g01252	4	Vitvi04g02290	4	Vitvi05g00666	4
Vitvi03g00543	4	Vitvi04g00211	4	Vitvi04g01260	4	Vitvi05g00015	4	Vitvi05g00676	4
Vitvi03g00580	4	Vitvi04g00214	4	Vitvi04g01306	4	Vitvi05g00020	4	Vitvi05g00712	4
Vitvi03g00618	4	Vitvi04g00266	4	Vitvi04g01330	4	Vitvi05g00044	4	Vitvi05g00812	4
Vitvi03g00700	4	Vitvi04g00268	4	Vitvi04g01339	4	Vitvi05g00050	4	Vitvi05g00818	4
Vitvi03g00718	4	Vitvi04g00324	4	Vitvi04g01368	4	Vitvi05g00104	4	Vitvi05g00819	4
Vitvi03g00846	4	Vitvi04g00326	4	Vitvi04g01369	4	Vitvi05g00112	4	Vitvi05g00857	4
Vitvi03g00849	4	Vitvi04g00338	4	Vitvi04g01396	4	Vitvi05g00129	4	Vitvi05g00873	4
Vitvi03g00997	4	Vitvi04g00372	4	Vitvi04g01431	4	Vitvi05g00138	4	Vitvi05g00932	4
Vitvi03g01052	4	Vitvi04g00380	4	Vitvi04g01432	4	Vitvi05g00145	4	Vitvi05g01042	4
Vitvi03g01088	4	Vitvi04g00409	4	Vitvi04g01448	4	Vitvi05g00147	4	Vitvi05g01044	4
Vitvi03g01092	4	Vitvi04g00432	4	Vitvi04g01454	4	Vitvi05g00149	4	Vitvi05g01082	4
Vitvi03g01095	4	Vitvi04g00440	4	Vitvi04g01469	4	Vitvi05g00161	4	Vitvi05g01088	4
Vitvi03g01140	4	Vitvi04g00482	4	Vitvi04g01474	4	Vitvi05g00183	4	Vitvi05g01184	4
Vitvi03g01141	4	Vitvi04g00497	4	Vitvi04g01506	4	Vitvi05g00207	4	Vitvi05g01186	4
Vitvi03g01189	4	Vitvi04g00505	4	Vitvi04g01507	4	Vitvi05g00208	4	Vitvi05g01255	4
Vitvi03g01199	4	Vitvi04g00512	4	Vitvi04g01534	4	Vitvi05g00217	4	Vitvi05g01264	4
Vitvi03g01242	4	Vitvi04g00516	4	Vitvi04g01545	4	Vitvi05g00235	4	Vitvi05g01324	4
Vitvi03g01308	4	Vitvi04g00519	4	Vitvi04g01556	4	Vitvi05g00244	4	Vitvi05g01325	4
Vitvi03g01421	4	Vitvi04g00557	4	Vitvi04g01557	4	Vitvi05g00257	4	Vitvi05g01347	4
Vitvi03g01422	4	Vitvi04g00594	4	Vitvi04g01561	4	Vitvi05g00291	4	Vitvi05g01350	4
Vitvi03g01521	4	Vitvi04g00599	4	Vitvi04g01571	4	Vitvi05g00293	4	Vitvi05g01357	4
Vitvi03g01540	4	Vitvi04g00607	4	Vitvi04g01610	4	Vitvi05g00301	4	Vitvi05g01382	4
Vitvi03g01555	4	Vitvi04g00623	4	Vitvi04g01617	4	Vitvi05g00309	4	Vitvi05g01475	4
Vitvi03g01558	4	Vitvi04g00625	4	Vitvi04g01675	4	Vitvi05g00339	4	Vitvi05g01502	4
Vitvi03g01559	4	Vitvi04g00626	4	Vitvi04g01738	4	Vitvi05g00344	4	Vitvi05g01508	4
Vitvi03g01560	4	Vitvi04g00640	4	Vitvi04g01743	4	Vitvi05g00377	4	Vitvi05g01516	4
Vitvi03g01638	4	Vitvi04g00658	4	Vitvi04g01745	4	Vitvi05g00388	4	Vitvi05g01537	4
Vitvi03g01647	4	Vitvi04g00756	4	Vitvi04g01751	4	Vitvi05g00398	4	Vitvi05g01542	4

Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi05g01550	4	Vitvi06g00570	4	Vitvi06g01621	4	Vitvi07g00302	4	Vitvi07g01622	4
Vitvi05g01603	4	Vitvi06g00573	4	Vitvi06g01633	4	Vitvi07g00311	4	Vitvi07g01630	4
Vitvi05g01765	4	Vitvi06g00576	4	Vitvi06g01661	4	Vitvi07g00312	4	Vitvi07g01641	4
Vitvi05g01769	4	Vitvi06g00581	4	Vitvi06g01673	4	Vitvi07g00313	4	Vitvi07g01690	4
Vitvi05g01790	4	Vitvi06g00590	4	Vitvi06g01682	4	Vitvi07g00325	4	Vitvi07g01695	4
Vitvi05g01878	4	Vitvi06g00599	4	Vitvi06g01684	4	Vitvi07g00333	4	Vitvi07g01706	4
Vitvi05g01906	4	Vitvi06g00613	4	Vitvi06g01685	4	Vitvi07g00355	4	Vitvi07g01707	4
Vitvi05g01920	4	Vitvi06g00625	4	Vitvi06g01696	4	Vitvi07g00360	4	Vitvi07g01723	4
Vitvi05g02239	4	Vitvi06g00632	4	Vitvi06g01700	4	Vitvi07g00361	4	Vitvi07g01743	4
Vitvi05g02276	4	Vitvi06g00640	4	Vitvi06g01702	4	Vitvi07g00376	4	Vitvi07g01746	4
Vitvi05g02292	4	Vitvi06g00646	4	Vitvi06g01739	4	Vitvi07g00378	4	Vitvi07g01748	4
Vitvi06g00021	4	Vitvi06g00667	4	Vitvi06g01743	4	Vitvi07g00382	4	Vitvi07g01768	4
Vitvi06g00026	4	Vitvi06g00668	4	Vitvi06g01748	4	Vitvi07g00396	4	Vitvi07g01803	4
Vitvi06g00048	4	Vitvi06g00671	4	Vitvi06g01752	4	Vitvi07g00434	4	Vitvi07g01872	4
Vitvi06g00059	4	Vitvi06g00692	4	Vitvi06g01839	4	Vitvi07g00457	4	Vitvi07g01886	4
Vitvi06g00079	4	Vitvi06g00720	4	Vitvi06g01842	4	Vitvi07g00476	4	Vitvi07g01888	4
Vitvi06g00087	4	Vitvi06g00732	4	Vitvi06g01882	4	Vitvi07g00484	4	Vitvi07g01934	4
Vitvi06g00091	4	Vitvi06g00741	4	Vitvi06g01885	4	Vitvi07g00523	4	Vitvi07g01985	4
Vitvi06g00109	4	Vitvi06g00772	4	Vitvi06g01888	4	Vitvi07g00526	4	Vitvi07g02013	4
Vitvi06g00114	4	Vitvi06g00779	4	Vitvi06g01894	4	Vitvi07g00537	4	Vitvi07g02059	4
Vitvi06g00123	4	Vitvi06g00785	4	Vitvi06g01895	4	Vitvi07g00564	4	Vitvi07g02061	4
Vitvi06g00169	4	Vitvi06g00803	4	Vitvi06g01896	4	Vitvi07g00580	4	Vitvi07g02134	4
Vitvi06g00186	4	Vitvi06g00813	4	Vitvi06g01959	4	Vitvi07g00610	4	Vitvi07g02135	4
Vitvi06g00192	4	Vitvi06g00897	4	Vitvi07g00017	4	Vitvi07g00636	4	Vitvi07g02149	4
Vitvi06g00235	4	Vitvi06g00898	4	Vitvi07g00024	4	Vitvi07g00639	4	Vitvi07g02276	4
Vitvi06g00237	4	Vitvi06g00991	4	Vitvi07g00037	4	Vitvi07g00697	4	Vitvi07g02452	4
Vitvi06g00287	4	Vitvi06g01015	4	Vitvi07g00046	4	Vitvi07g00705	4	Vitvi07g02508	4
Vitvi06g00308	4	Vitvi06g01128	4	Vitvi07g00054	4	Vitvi07g00710	4	Vitvi07g02509	4
Vitvi06g00313	4	Vitvi06g01161	4	Vitvi07g00062	4	Vitvi07g00801	4	Vitvi07g02570	4
Vitvi06g00335	4	Vitvi06g01192	4	Vitvi07g00109	4	Vitvi07g01060	4	Vitvi07g02571	4
Vitvi06g00369	4	Vitvi06g01203	4	Vitvi07g00112	4	Vitvi07g01139	4	Vitvi07g02572	4
Vitvi06g00382	4	Vitvi06g01225	4	Vitvi07g00115	4	Vitvi07g01171	4	Vitvi07g02578	4
Vitvi06g00384	4	Vitvi06g01237	4	Vitvi07g00116	4	Vitvi07g01197	4	Vitvi07g02591	4
Vitvi06g00385	4	Vitvi06g01272	4	Vitvi07g00117	4	Vitvi07g01249	4	Vitvi07g02618	4
Vitvi06g00387	4	Vitvi06g01297	4	Vitvi07g00128	4	Vitvi07g01287	4	Vitvi07g02672	4
Vitvi06g00422	4	Vitvi06g01313	4	Vitvi07g00131	4	Vitvi07g01295	4	Vitvi07g02675	4
Vitvi06g00426	4	Vitvi06g01330	4	Vitvi07g00149	4	Vitvi07g01337	4	Vitvi07g02687	4
Vitvi06g00429	4	Vitvi06g01334	4	Vitvi07g00164	4	Vitvi07g01364	4	Vitvi07g02688	4
Vitvi06g00451	4	Vitvi06g01350	4	Vitvi07g00169	4	Vitvi07g01394	4	Vitvi07g02703	4
Vitvi06g00456	4	Vitvi06g01376	4	Vitvi07g00190	4	Vitvi07g01425	4	Vitvi07g02948	4
Vitvi06g00491	4	Vitvi06g01377	4	Vitvi07g00203	4	Vitvi07g01453	4	Vitvi07g02985	4
Vitvi06g00495	4	Vitvi06g01417	4	Vitvi07g00210	4	Vitvi07g01480	4	Vitvi07g03070	4
Vitvi06g00496	4	Vitvi06g01457	4	Vitvi07g00217	4	Vitvi07g01510	4	Vitvi07g03084	4
Vitvi06g00502	4	Vitvi06g01491	4	Vitvi07g00220	4	Vitvi07g01523	4	Vitvi07g03135	4
Vitvi06g00503	4	Vitvi06g01543	4	Vitvi07g00226	4	Vitvi07g01534	4	Vitvi07g03136	4
Vitvi06g00505	4	Vitvi06g01569	4	Vitvi07g00228	4	Vitvi07g01539	4	Vitvi07g03146	4
Vitvi06g00510	4	Vitvi06g01590	4	Vitvi07g00280	4	Vitvi07g01542	4	Vitvi07g03177	4
Vitvi06g00515	4	Vitvi06g01591	4	Vitvi07g00286	4	Vitvi07g01562	4	Vitvi08g00016	4
Vitvi06g00538	4	Vitvi06g01594	4	Vitvi07g00298	4	Vitvi07g01572	4	Vitvi08g00018	4

Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi08g00023	4	Vitvi08g01078	4	Vitvi08g01816	4	Vitvi09g00558	4	Vitvi10g00349	4
Vitvi08g00039	4	Vitvi08g01079	4	Vitvi08g01817	4	Vitvi09g00582	4	Vitvi10g00352	4
Vitvi08g00104	4	Vitvi08g01108	4	Vitvi08g01828	4	Vitvi09g00596	4	Vitvi10g00363	4
Vitvi08g00138	4	Vitvi08g01111	4	Vitvi08g01841	4	Vitvi09g00601	4	Vitvi10g00383	4
Vitvi08g00215	4	Vitvi08g01113	4	Vitvi08g01842	4	Vitvi09g00616	4	Vitvi10g00400	4
Vitvi08g00225	4	Vitvi08g01154	4	Vitvi08g01859	4	Vitvi09g00627	4	Vitvi10g00418	4
Vitvi08g00239	4	Vitvi08g01155	4	Vitvi08g01889	4	Vitvi09g00643	4	Vitvi10g00437	4
Vitvi08g00262	4	Vitvi08g01171	4	Vitvi08g01895	4	Vitvi09g00645	4	Vitvi10g00447	4
Vitvi08g00271	4	Vitvi08g01175	4	Vitvi08g01899	4	Vitvi09g00668	4	Vitvi10g00454	4
Vitvi08g00283	4	Vitvi08g01177	4	Vitvi08g01900	4	Vitvi09g00691	4	Vitvi10g00489	4
Vitvi08g00297	4	Vitvi08g01188	4	Vitvi08g01940	4	Vitvi09g00719	4	Vitvi10g00516	4
Vitvi08g00639	4	Vitvi08g01212	4	Vitvi08g01973	4	Vitvi09g00734	4	Vitvi10g00544	4
Vitvi08g00650	4	Vitvi08g01242	4	Vitvi08g01987	4	Vitvi09g00793	4	Vitvi10g00558	4
Vitvi08g00665	4	Vitvi08g01256	4	Vitvi08g02036	4	Vitvi09g00918	4	Vitvi10g00586	4
Vitvi08g00667	4	Vitvi08g01280	4	Vitvi08g02055	4	Vitvi09g00924	4	Vitvi10g00593	4
Vitvi08g00676	4	Vitvi08g01290	4	Vitvi08g02107	4	Vitvi09g00985	4	Vitvi10g00600	4
Vitvi08g00686	4	Vitvi08g01298	4	Vitvi08g02133	4	Vitvi09g01026	4	Vitvi10g00634	4
Vitvi08g00739	4	Vitvi08g01307	4	Vitvi08g02143	4	Vitvi09g01181	4	Vitvi10g00680	4
Vitvi08g00761	4	Vitvi08g01308	4	Vitvi08g02144	4	Vitvi09g01275	4	Vitvi10g00709	4
Vitvi08g00763	4	Vitvi08g01314	4	Vitvi08g02175	4	Vitvi09g01287	4	Vitvi10g00722	4
Vitvi08g00764	4	Vitvi08g01316	4	Vitvi08g02252	4	Vitvi09g01361	4	Vitvi10g00826	4
Vitvi08g00782	4	Vitvi08g01376	4	Vitvi08g02405	4	Vitvi09g01373	4	Vitvi10g00837	4
Vitvi08g00786	4	Vitvi08g01393	4	Vitvi09g00044	4	Vitvi09g01382	4	Vitvi10g00841	4
Vitvi08g00812	4	Vitvi08g01422	4	Vitvi09g00060	4	Vitvi09g01389	4	Vitvi10g00862	4
Vitvi08g00829	4	Vitvi08g01430	4	Vitvi09g00063	4	Vitvi09g01405	4	Vitvi10g00915	4
Vitvi08g00844	4	Vitvi08g01461	4	Vitvi09g00064	4	Vitvi09g01457	4	Vitvi10g01339	4
Vitvi08g00845	4	Vitvi08g01464	4	Vitvi09g00067	4	Vitvi09g01458	4	Vitvi10g01479	4
Vitvi08g00858	4	Vitvi08g01465	4	Vitvi09g00079	4	Vitvi09g01478	4	Vitvi10g01508	4
Vitvi08g00859	4	Vitvi08g01492	4	Vitvi09g00096	4	Vitvi09g01496	4	Vitvi10g01538	4
Vitvi08g00865	4	Vitvi08g01539	4	Vitvi09g00130	4	Vitvi09g01546	4	Vitvi10g01544	4
Vitvi08g00869	4	Vitvi08g01542	4	Vitvi09g00139	4	Vitvi09g01895	4	Vitvi10g01547	4
Vitvi08g00870	4	Vitvi08g01547	4	Vitvi09g00152	4	Vitvi09g01905	4	Vitvi10g01565	4
Vitvi08g00886	4	Vitvi08g01560	4	Vitvi09g00156	4	Vitvi10g00020	4	Vitvi10g01568	4
Vitvi08g00887	4	Vitvi08g01573	4	Vitvi09g00157	4	Vitvi10g00035	4	Vitvi10g01594	4
Vitvi08g00895	4	Vitvi08g01591	4	Vitvi09g00171	4	Vitvi10g00055	4	Vitvi10g01603	4
Vitvi08g00897	4	Vitvi08g01600	4	Vitvi09g00175	4	Vitvi10g00063	4	Vitvi10g01607	4
Vitvi08g00900	4	Vitvi08g01612	4	Vitvi09g00194	4	Vitvi10g00087	4	Vitvi10g01675	4
Vitvi08g00904	4	Vitvi08g01645	4	Vitvi09g00216	4	Vitvi10g00111	4	Vitvi10g01737	4
Vitvi08g00906	4	Vitvi08g01652	4	Vitvi09g00283	4	Vitvi10g00117	4	Vitvi10g01740	4
Vitvi08g00922	4	Vitvi08g01657	4	Vitvi09g00293	4	Vitvi10g00138	4	Vitvi10g01770	4
Vitvi08g00923	4	Vitvi08g01684	4	Vitvi09g00300	4	Vitvi10g00178	4	Vitvi10g01842	4
Vitvi08g00925	4	Vitvi08g01696	4	Vitvi09g00326	4	Vitvi10g00179	4	Vitvi10g01879	4
Vitvi08g00950	4	Vitvi08g01697	4	Vitvi09g00337	4	Vitvi10g00198	4	Vitvi10g01885	4
Vitvi08g00973	4	Vitvi08g01751	4	Vitvi09g00358	4	Vitvi10g00211	4	Vitvi10g02082	4
Vitvi08g01002	4	Vitvi08g01787	4	Vitvi09g00405	4	Vitvi10g00212	4	Vitvi10g02165	4
Vitvi08g01011	4	Vitvi08g01793	4	Vitvi09g00444	4	Vitvi10g00222	4	Vitvi10g02166	4
Vitvi08g01033	4	Vitvi08g01804	4	Vitvi09g00489	4	Vitvi10g00232	4	Vitvi10g02178	4
Vitvi08g01044	4	Vitvi08g01805	4	Vitvi09g00496	4	Vitvi10g00286	4	Vitvi10g02188	4
Vitvi08g01063	4	Vitvi08g01815	4	Vitvi09g00513	4	Vitvi10g00313	4	Vitvi10g02198	4

Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi10g02252	4	Vitvi11g00688	4	Vitvi12g00314	4	Vitvi12g02309	4	Vitvi13g00496	4
Vitvi10g02255	4	Vitvi11g00692	4	Vitvi12g00320	4	Vitvi12g02337	4	Vitvi13g00512	4
Vitvi10g02328	4	Vitvi11g00694	4	Vitvi12g00345	4	Vitvi12g02342	4	Vitvi13g00513	4
Vitvi10g02345	4	Vitvi11g00719	4	Vitvi12g00351	4	Vitvi12g02348	4	Vitvi13g00570	4
Vitvi10g02358	4	Vitvi11g00723	4	Vitvi12g00385	4	Vitvi12g02457	4	Vitvi13g00604	4
Vitvi10g02417	4	Vitvi11g00724	4	Vitvi12g00388	4	Vitvi12g02458	4	Vitvi13g00613	4
Vitvi11g00023	4	Vitvi11g00927	4	Vitvi12g00405	4	Vitvi12g02459	4	Vitvi13g00622	4
Vitvi11g00067	4	Vitvi11g00990	4	Vitvi12g00411	4	Vitvi12g02500	4	Vitvi13g00670	4
Vitvi11g00096	4	Vitvi11g01039	4	Vitvi12g00414	4	Vitvi12g02525	4	Vitvi13g00680	4
Vitvi11g00104	4	Vitvi11g01128	4	Vitvi12g00474	4	Vitvi12g02582	4	Vitvi13g00684	4
Vitvi11g00127	4	Vitvi11g01138	4	Vitvi12g00479	4	Vitvi12g02659	4	Vitvi13g00697	4
Vitvi11g00132	4	Vitvi11g01145	4	Vitvi12g00489	4	Vitvi12g02756	4	Vitvi13g00699	4
Vitvi11g00152	4	Vitvi11g01150	4	Vitvi12g00494	4	Vitvi13g00008	4	Vitvi13g00706	4
Vitvi11g00158	4	Vitvi11g01202	4	Vitvi12g00534	4	Vitvi13g00027	4	Vitvi13g00749	4
Vitvi11g00188	4	Vitvi11g01203	4	Vitvi12g00543	4	Vitvi13g00033	4	Vitvi13g00751	4
Vitvi11g00223	4	Vitvi11g01220	4	Vitvi12g00544	4	Vitvi13g00046	4	Vitvi13g00767	4
Vitvi11g00244	4	Vitvi11g01265	4	Vitvi12g00661	4	Vitvi13g00047	4	Vitvi13g00790	4
Vitvi11g00254	4	Vitvi11g01271	4	Vitvi12g00684	4	Vitvi13g00089	4	Vitvi13g00880	4
Vitvi11g00260	4	Vitvi11g01277	4	Vitvi12g00704	4	Vitvi13g00097	4	Vitvi13g01053	4
Vitvi11g00263	4	Vitvi11g01282	4	Vitvi12g00716	4	Vitvi13g00104	4	Vitvi13g01083	4
Vitvi11g00271	4	Vitvi11g01303	4	Vitvi12g00719	4	Vitvi13g00111	4	Vitvi13g01091	4
Vitvi11g00277	4	Vitvi11g01376	4	Vitvi12g00736	4	Vitvi13g00116	4	Vitvi13g01134	4
Vitvi11g00280	4	Vitvi11g01377	4	Vitvi12g00752	4	Vitvi13g00126	4	Vitvi13g01264	4
Vitvi11g00288	4	Vitvi11g01378	4	Vitvi12g00857	4	Vitvi13g00134	4	Vitvi13g01338	4
Vitvi11g00290	4	Vitvi11g01393	4	Vitvi12g00864	4	Vitvi13g00146	4	Vitvi13g01485	4
Vitvi11g00312	4	Vitvi11g01425	4	Vitvi12g00905	4	Vitvi13g00177	4	Vitvi13g01488	4
Vitvi11g00331	4	Vitvi11g01427	4	Vitvi12g00910	4	Vitvi13g00201	4	Vitvi13g01539	4
Vitvi11g00397	4	Vitvi11g01432	4	Vitvi12g01497	4	Vitvi13g00207	4	Vitvi13g01614	4
Vitvi11g00437	4	Vitvi11g01435	4	Vitvi12g01578	4	Vitvi13g00211	4	Vitvi13g01641	4
Vitvi11g00444	4	Vitvi11g01444	4	Vitvi12g01629	4	Vitvi13g00218	4	Vitvi13g01732	4
Vitvi11g00477	4	Vitvi11g01475	4	Vitvi12g01665	4	Vitvi13g00222	4	Vitvi13g01745	4
Vitvi11g00482	4	Vitvi11g01505	4	Vitvi12g01667	4	Vitvi13g00225	4	Vitvi13g01755	4
Vitvi11g00495	4	Vitvi11g01507	4	Vitvi12g01831	4	Vitvi13g00226	4	Vitvi13g01756	4
Vitvi11g00508	4	Vitvi12g00003	4	Vitvi12g01868	4	Vitvi13g00229	4	Vitvi13g01818	4
Vitvi11g00511	4	Vitvi12g00008	4	Vitvi12g01903	4	Vitvi13g00236	4	Vitvi13g01823	4
Vitvi11g00539	4	Vitvi12g00041	4	Vitvi12g01915	4	Vitvi13g00278	4	Vitvi13g01824	4
Vitvi11g00547	4	Vitvi12g00042	4	Vitvi12g01927	4	Vitvi13g00282	4	Vitvi13g01827	4
Vitvi11g00549	4	Vitvi12g00085	4	Vitvi12g01963	4	Vitvi13g00310	4	Vitvi13g01841	4
Vitvi11g00550	4	Vitvi12g00088	4	Vitvi12g02020	4	Vitvi13g00314	4	Vitvi13g01892	4
Vitvi11g00552	4	Vitvi12g00089	4	Vitvi12g02044	4	Vitvi13g00326	4	Vitvi13g01902	4
Vitvi11g00556	4	Vitvi12g00141	4	Vitvi12g02106	4	Vitvi13g00328	4	Vitvi13g01921	4
Vitvi11g00577	4	Vitvi12g00158	4	Vitvi12g02129	4	Vitvi13g00344	4	Vitvi13g01995	4
Vitvi11g00581	4	Vitvi12g00184	4	Vitvi12g02134	4	Vitvi13g00365	4	Vitvi13g02017	4
Vitvi11g00582	4	Vitvi12g00225	4	Vitvi12g02138	4	Vitvi13g00389	4	Vitvi13g02024	4
Vitvi11g00591	4	Vitvi12g00274	4	Vitvi12g02139	4	Vitvi13g00409	4	Vitvi13g02054	4
Vitvi11g00595	4	Vitvi12g00298	4	Vitvi12g02200	4	Vitvi13g00410	4	Vitvi13g02066	4
Vitvi11g00597	4	Vitvi12g00300	4	Vitvi12g02293	4	Vitvi13g00451	4	Vitvi13g02190	4
Vitvi11g00600	4	Vitvi12g00309	4	Vitvi12g02296	4	Vitvi13g00471	4	Vitvi13g02421	4
Vitvi11g00667	4	Vitvi12g00313	4	Vitvi12g02308	4	Vitvi13g00490	4	Vitvi13g02457	4

Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi13g02510	4	Vitvi14g01124	4	Vitvi14g01936	4	Vitvi15g01038	4	Vitvi16g01390	4
Vitvi13g02518	4	Vitvi14g01144	4	Vitvi14g01972	4	Vitvi15g01044	4	Vitvi16g01404	4
Vitvi13g02555	4	Vitvi14g01211	4	Vitvi14g01973	4	Vitvi15g01084	4	Vitvi16g01406	4
Vitvi13g02569	4	Vitvi14g01255	4	Vitvi14g01984	4	Vitvi15g01108	4	Vitvi16g01411	4
Vitvi14g00037	4	Vitvi14g01263	4	Vitvi14g01985	4	Vitvi15g01117	4	Vitvi16g01413	4
Vitvi14g00050	4	Vitvi14g01264	4	Vitvi14g02015	4	Vitvi15g01127	4	Vitvi16g01480	4
Vitvi14g00119	4	Vitvi14g01280	4	Vitvi14g02467	4	Vitvi15g01239	4	Vitvi16g01500	4
Vitvi14g00135	4	Vitvi14g01286	4	Vitvi14g02481	4	Vitvi15g01351	4	Vitvi16g01530	4
Vitvi14g00155	4	Vitvi14g01306	4	Vitvi14g02497	4	Vitvi15g01417	4	Vitvi16g01638	4
Vitvi14g00178	4	Vitvi14g01310	4	Vitvi14g02498	4	Vitvi15g01421	4	Vitvi16g01642	4
Vitvi14g00179	4	Vitvi14g01321	4	Vitvi14g02605	4	Vitvi15g01494	4	Vitvi16g01643	4
Vitvi14g00185	4	Vitvi14g01327	4	Vitvi14g02653	4	Vitvi15g01495	4	Vitvi16g01646	4
Vitvi14g00189	4	Vitvi14g01354	4	Vitvi14g02897	4	Vitvi15g01523	4	Vitvi16g01858	4
Vitvi14g00193	4	Vitvi14g01394	4	Vitvi14g02907	4	Vitvi15g01524	4	Vitvi16g01904	4
Vitvi14g00194	4	Vitvi14g01405	4	Vitvi14g02948	4	Vitvi15g01538	4	Vitvi16g01913	4
Vitvi14g00231	4	Vitvi14g01419	4	Vitvi14g02952	4	Vitvi15g01571	4	Vitvi16g01915	4
Vitvi14g00235	4	Vitvi14g01422	4	Vitvi14g02988	4	Vitvi15g01632	4	Vitvi16g01920	4
Vitvi14g00253	4	Vitvi14g01427	4	Vitvi14g02991	4	Vitvi15g01634	4	Vitvi16g01959	4
Vitvi14g00271	4	Vitvi14g01434	4	Vitvi14g02992	4	Vitvi15g01649	4	Vitvi16g01985	4
Vitvi14g00274	4	Vitvi14g01440	4	Vitvi14g03008	4	Vitvi16g00032	4	Vitvi16g02012	4
Vitvi14g00303	4	Vitvi14g01449	4	Vitvi14g03076	4	Vitvi16g00043	4	Vitvi16g02112	4
Vitvi14g00317	4	Vitvi14g01455	4	Vitvi14g03137	4	Vitvi16g00046	4	Vitvi17g00011	4
Vitvi14g00335	4	Vitvi14g01457	4	Vitvi15g00459	4	Vitvi16g00076	4	Vitvi17g00022	4
Vitvi14g00349	4	Vitvi14g01466	4	Vitvi15g00478	4	Vitvi16g00086	4	Vitvi17g00038	4
Vitvi14g00380	4	Vitvi14g01485	4	Vitvi15g00504	4	Vitvi16g00114	4	Vitvi17g00044	4
Vitvi14g00382	4	Vitvi14g01500	4	Vitvi15g00532	4	Vitvi16g00121	4	Vitvi17g00057	4
Vitvi14g00412	4	Vitvi14g01522	4	Vitvi15g00544	4	Vitvi16g00139	4	Vitvi17g00072	4
Vitvi14g00419	4	Vitvi14g01555	4	Vitvi15g00572	4	Vitvi16g00146	4	Vitvi17g00081	4
Vitvi14g00481	4	Vitvi14g01568	4	Vitvi15g00613	4	Vitvi16g00156	4	Vitvi17g00115	4
Vitvi14g00482	4	Vitvi14g01591	4	Vitvi15g00676	4	Vitvi16g00173	4	Vitvi17g00120	4
Vitvi14g00503	4	Vitvi14g01603	4	Vitvi15g00695	4	Vitvi16g00526	4	Vitvi17g00152	4
Vitvi14g00521	4	Vitvi14g01604	4	Vitvi15g00701	4	Vitvi16g00672	4	Vitvi17g00160	4
Vitvi14g00605	4	Vitvi14g01623	4	Vitvi15g00703	4	Vitvi16g00831	4	Vitvi17g00161	4
Vitvi14g00618	4	Vitvi14g01700	4	Vitvi15g00735	4	Vitvi16g00880	4	Vitvi17g00170	4
Vitvi14g00627	4	Vitvi14g01714	4	Vitvi15g00772	4	Vitvi16g00912	4	Vitvi17g00195	4
Vitvi14g00646	4	Vitvi14g01715	4	Vitvi15g00795	4	Vitvi16g00964	4	Vitvi17g00206	4
Vitvi14g00658	4	Vitvi14g01741	4	Vitvi15g00831	4	Vitvi16g01053	4	Vitvi17g00241	4
Vitvi14g00672	4	Vitvi14g01750	4	Vitvi15g00837	4	Vitvi16g01086	4	Vitvi17g00263	4
Vitvi14g00702	4	Vitvi14g01761	4	Vitvi15g00840	4	Vitvi16g01089	4	Vitvi17g00280	4
Vitvi14g00791	4	Vitvi14g01763	4	Vitvi15g00842	4	Vitvi16g01103	4	Vitvi17g00333	4
Vitvi14g00841	4	Vitvi14g01787	4	Vitvi15g00896	4	Vitvi16g01149	4	Vitvi17g00381	4
Vitvi14g00879	4	Vitvi14g01807	4	Vitvi15g00920	4	Vitvi16g01233	4	Vitvi17g00385	4
Vitvi14g00893	4	Vitvi14g01811	4	Vitvi15g00950	4	Vitvi16g01308	4	Vitvi17g00403	4
Vitvi14g00973	4	Vitvi14g01833	4	Vitvi15g00953	4	Vitvi16g01338	4	Vitvi17g00433	4
Vitvi14g00998	4	Vitvi14g01867	4	Vitvi15g00958	4	Vitvi16g01340	4	Vitvi17g00435	4
Vitvi14g01004	4	Vitvi14g01872	4	Vitvi15g00974	4	Vitvi16g01346	4	Vitvi17g00440	4
Vitvi14g01026	4	Vitvi14g01901	4	Vitvi15g00985	4	Vitvi16g01350	4	Vitvi17g00451	4
Vitvi14g01032	4	Vitvi14g01916	4	Vitvi15g01020	4	Vitvi16g01371	4	Vitvi17g00483	4
Vitvi14g01061	4	Vitvi14g01935	4	Vitvi15g01031	4	Vitvi16g01373	4	Vitvi17g00488	4

Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi17g00496	4	Vitvi17g01345	4	Vitvi18g00551	4	Vitvi18g01647	4	Vitvi19g00186	4
Vitvi17g00504	4	Vitvi17g01446	4	Vitvi18g00595	4	Vitvi18g01666	4	Vitvi19g00202	4
Vitvi17g00515	4	Vitvi17g01491	4	Vitvi18g00596	4	Vitvi18g01678	4	Vitvi19g00208	4
Vitvi17g00522	4	Vitvi17g01525	4	Vitvi18g00601	4	Vitvi18g01699	4	Vitvi19g00209	4
Vitvi17g00523	4	Vitvi17g01555	4	Vitvi18g00622	4	Vitvi18g01766	4	Vitvi19g00258	4
Vitvi17g00570	4	Vitvi18g00006	4	Vitvi18g00636	4	Vitvi18g01860	4	Vitvi19g00278	4
Vitvi17g00574	4	Vitvi18g00044	4	Vitvi18g00645	4	Vitvi18g01977	4	Vitvi19g00377	4
Vitvi17g00621	4	Vitvi18g00058	4	Vitvi18g00661	4	Vitvi18g02013	4	Vitvi19g00378	4
Vitvi17g00622	4	Vitvi18g00079	4	Vitvi18g00688	4	Vitvi18g02014	4	Vitvi19g00392	4
Vitvi17g00640	4	Vitvi18g00088	4	Vitvi18g00694	4	Vitvi18g02081	4	Vitvi19g00401	4
Vitvi17g00665	4	Vitvi18g00095	4	Vitvi18g00695	4	Vitvi18g02246	4	Vitvi19g00433	4
Vitvi17g00670	4	Vitvi18g00100	4	Vitvi18g00703	4	Vitvi18g02251	4	Vitvi19g00434	4
Vitvi17g00682	4	Vitvi18g00101	4	Vitvi18g00718	4	Vitvi18g02310	4	Vitvi19g00457	4
Vitvi17g00698	4	Vitvi18g00105	4	Vitvi18g00734	4	Vitvi18g02329	4	Vitvi19g00458	4
Vitvi17g00700	4	Vitvi18g00114	4	Vitvi18g00740	4	Vitvi18g02346	4	Vitvi19g00486	4
Vitvi17g00713	4	Vitvi18g00157	4	Vitvi18g00742	4	Vitvi18g02359	4	Vitvi19g00492	4
Vitvi17g00725	4	Vitvi18g00167	4	Vitvi18g00761	4	Vitvi18g02398	4	Vitvi19g00531	4
Vitvi17g00726	4	Vitvi18g00169	4	Vitvi18g00776	4	Vitvi18g02420	4	Vitvi19g00532	4
Vitvi17g00730	4	Vitvi18g00181	4	Vitvi18g00778	4	Vitvi18g02423	4	Vitvi19g00567	4
Vitvi17g00733	4	Vitvi18g00188	4	Vitvi18g00797	4	Vitvi18g02437	4	Vitvi19g00568	4
Vitvi17g00761	4	Vitvi18g00237	4	Vitvi18g00808	4	Vitvi18g02475	4	Vitvi19g00573	4
Vitvi17g00764	4	Vitvi18g00238	4	Vitvi18g00809	4	Vitvi18g02500	4	Vitvi19g00588	4
Vitvi17g00778	4	Vitvi18g00243	4	Vitvi18g00832	4	Vitvi18g02528	4	Vitvi19g00602	4
Vitvi17g00779	4	Vitvi18g00252	4	Vitvi18g00886	4	Vitvi18g02541	4	Vitvi19g00611	4
Vitvi17g00794	4	Vitvi18g00266	4	Vitvi18g00896	4	Vitvi18g02570	4	Vitvi19g00625	4
Vitvi17g00795	4	Vitvi18g00268	4	Vitvi18g00913	4	Vitvi18g02581	4	Vitvi19g00654	4
Vitvi17g00802	4	Vitvi18g00280	4	Vitvi18g00937	4	Vitvi18g02588	4	Vitvi19g00674	4
Vitvi17g00814	4	Vitvi18g00308	4	Vitvi18g00959	4	Vitvi18g02610	4	Vitvi19g00704	4
Vitvi17g00815	4	Vitvi18g00312	4	Vitvi18g01051	4	Vitvi18g02613	4	Vitvi19g00722	4
Vitvi17g00839	4	Vitvi18g00326	4	Vitvi18g01064	4	Vitvi18g02636	4	Vitvi19g00723	4
Vitvi17g00840	4	Vitvi18g00341	4	Vitvi18g01073	4	Vitvi18g02642	4	Vitvi19g00749	4
Vitvi17g00863	4	Vitvi18g00348	4	Vitvi18g01082	4	Vitvi18g02652	4	Vitvi19g00917	4
Vitvi17g00877	4	Vitvi18g00356	4	Vitvi18g01086	4	Vitvi18g02775	4	Vitvi19g00927	4
Vitvi17g00894	4	Vitvi18g00372	4	Vitvi18g01119	4	Vitvi18g02814	4	Vitvi19g00928	4
Vitvi17g00905	4	Vitvi18g00373	4	Vitvi18g01131	4	Vitvi18g02832	4	Vitvi19g00933	4
Vitvi17g00906	4	Vitvi18g00374	4	Vitvi18g01137	4	Vitvi18g03048	4	Vitvi19g01690	4
Vitvi17g00911	4	Vitvi18g00386	4	Vitvi18g01139	4	Vitvi18g03097	4	Vitvi19g01705	4
Vitvi17g00916	4	Vitvi18g00391	4	Vitvi18g01155	4	Vitvi18g03215	4	Vitvi19g01710	4
Vitvi17g00929	4	Vitvi18g00392	4	Vitvi18g01166	4	Vitvi19g00016	4	Vitvi19g01764	4
Vitvi17g00938	4	Vitvi18g00396	4	Vitvi18g01180	4	Vitvi19g00028	4	Vitvi19g01800	4
Vitvi17g00971	4	Vitvi18g00410	4	Vitvi18g01231	4	Vitvi19g00059	4	Vitvi19g01869	4
Vitvi17g01025	4	Vitvi18g00411	4	Vitvi18g01249	4	Vitvi19g00061	4	Vitvi19g01872	4
Vitvi17g01026	4	Vitvi18g00423	4	Vitvi18g01277	4	Vitvi19g00070	4	Vitvi19g01883	4
Vitvi17g01102	4	Vitvi18g00426	4	Vitvi18g01297	4	Vitvi19g00125	4	Vitvi19g01985	4
Vitvi17g01162	4	Vitvi18g00430	4	Vitvi18g01432	4	Vitvi19g00129	4	Vitvi19g02000	4
Vitvi17g01176	4	Vitvi18g00434	4	Vitvi18g01518	4	Vitvi19g00131	4	Vitvi19g02013	4
Vitvi17g01249	4	Vitvi18g00508	4	Vitvi18g01520	4	Vitvi19g00155	4	Vitvi19g02112	4
Vitvi17g01266	4	Vitvi18g00516	4	Vitvi18g01603	4	Vitvi19g00184	4	Vitvi19g02269	4
Vitvi17g01330	4	Vitvi18g00524	4	Vitvi18g01617	4	Vitvi19g00185	4	Vitvi19g02346	4

Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi00g01011	5	Vitvi02g00425	5	Vitvi03g00889	5	Vitvi04g00907	5	Vitvi05g00374	5
Vitvi00g01022	5	Vitvi02g00461	5	Vitvi03g00993	5	Vitvi04g00953	5	Vitvi05g00410	5
Vitvi01g00024	5	Vitvi02g00463	5	Vitvi03g01041	5	Vitvi04g01109	5	Vitvi05g00420	5
Vitvi01g00025	5	Vitvi02g00471	5	Vitvi03g01080	5	Vitvi04g01128	5	Vitvi05g00443	5
Vitvi01g00028	5	Vitvi02g00496	5	Vitvi03g01084	5	Vitvi04g01131	5	Vitvi05g00455	5
Vitvi01g00068	5	Vitvi02g00502	5	Vitvi03g01190	5	Vitvi04g01200	5	Vitvi05g00464	5
Vitvi01g00076	5	Vitvi02g00597	5	Vitvi03g01225	5	Vitvi04g01223	5	Vitvi05g00470	5
Vitvi01g00082	5	Vitvi02g00650	5	Vitvi03g01236	5	Vitvi04g01249	5	Vitvi05g00492	5
Vitvi01g00133	5	Vitvi02g00677	5	Vitvi03g01287	5	Vitvi04g01258	5	Vitvi05g00506	5
Vitvi01g00138	5	Vitvi02g00685	5	Vitvi03g01464	5	Vitvi04g01280	5	Vitvi05g00508	5
Vitvi01g00249	5	Vitvi02g00735	5	Vitvi03g01475	5	Vitvi04g01285	5	Vitvi05g00559	5
Vitvi01g00330	5	Vitvi02g00746	5	Vitvi03g01492	5	Vitvi04g01351	5	Vitvi05g00615	5
Vitvi01g00369	5	Vitvi02g00750	5	Vitvi03g01580	5	Vitvi04g01367	5	Vitvi05g00835	5
Vitvi01g00392	5	Vitvi02g00796	5	Vitvi03g01603	5	Vitvi04g01370	5	Vitvi05g00878	5
Vitvi01g00450	5	Vitvi02g00836	5	Vitvi03g01604	5	Vitvi04g01384	5	Vitvi05g00925	5
Vitvi01g00451	5	Vitvi02g00842	5	Vitvi03g01834	5	Vitvi04g01386	5	Vitvi05g01112	5
Vitvi01g00579	5	Vitvi02g01163	5	Vitvi03g01841	5	Vitvi04g01437	5	Vitvi05g01424	5
Vitvi01g00599	5	Vitvi02g01268	5	Vitvi04g00010	5	Vitvi04g01438	5	Vitvi05g01507	5
Vitvi01g00616	5	Vitvi02g01364	5	Vitvi04g00063	5	Vitvi04g01519	5	Vitvi05g01538	5
Vitvi01g00719	5	Vitvi02g01482	5	Vitvi04g00110	5	Vitvi04g01524	5	Vitvi05g01560	5
Vitvi01g00773	5	Vitvi02g01669	5	Vitvi04g00113	5	Vitvi04g01526	5	Vitvi05g01563	5
Vitvi01g00908	5	Vitvi02g01680	5	Vitvi04g00127	5	Vitvi04g01527	5	Vitvi05g01585	5
Vitvi01g00914	5	Vitvi02g01718	5	Vitvi04g00149	5	Vitvi04g01654	5	Vitvi05g01599	5
Vitvi01g00918	5	Vitvi02g01749	5	Vitvi04g00173	5	Vitvi04g01678	5	Vitvi05g01622	5
Vitvi01g01034	5	Vitvi02g01750	5	Vitvi04g00196	5	Vitvi04g01777	5	Vitvi05g01626	5
Vitvi01g01311	5	Vitvi02g01816	5	Vitvi04g00200	5	Vitvi04g01787	5	Vitvi05g01655	5
Vitvi01g01499	5	Vitvi03g00011	5	Vitvi04g00219	5	Vitvi04g01874	5	Vitvi05g01685	5
Vitvi01g01545	5	Vitvi03g00089	5	Vitvi04g00220	5	Vitvi04g01927	5	Vitvi05g01690	5
Vitvi01g01659	5	Vitvi03g00153	5	Vitvi04g00235	5	Vitvi04g02084	5	Vitvi05g01696	5
Vitvi01g01774	5	Vitvi03g00195	5	Vitvi04g00276	5	Vitvi04g02107	5	Vitvi05g01698	5
Vitvi01g01783	5	Vitvi03g00204	5	Vitvi04g00293	5	Vitvi04g02132	5	Vitvi05g01784	5
Vitvi01g01812	5	Vitvi03g00226	5	Vitvi04g00323	5	Vitvi04g02148	5	Vitvi05g01822	5
Vitvi01g01814	5	Vitvi03g00231	5	Vitvi04g00333	5	Vitvi04g02173	5	Vitvi05g01896	5
Vitvi01g01815	5	Vitvi03g00243	5	Vitvi04g00335	5	Vitvi04g02261	5	Vitvi05g01904	5
Vitvi01g01995	5	Vitvi03g00246	5	Vitvi04g00337	5	Vitvi05g00049	5	Vitvi05g01994	5
Vitvi01g02036	5	Vitvi03g00270	5	Vitvi04g00363	5	Vitvi05g00090	5	Vitvi05g02128	5
Vitvi01g02269	5	Vitvi03g00324	5	Vitvi04g00414	5	Vitvi05g00092	5	Vitvi05g02178	5
Vitvi01g02274	5	Vitvi03g00327	5	Vitvi04g00438	5	Vitvi05g00097	5	Vitvi05g02279	5
Vitvi01g02276	5	Vitvi03g00330	5	Vitvi04g00444	5	Vitvi05g00206	5	Vitvi06g00027	5
Vitvi02g00119	5	Vitvi03g00332	5	Vitvi04g00447	5	Vitvi05g00229	5	Vitvi06g00041	5
Vitvi02g00188	5	Vitvi03g00370	5	Vitvi04g00500	5	Vitvi05g00245	5	Vitvi06g00086	5
Vitvi02g00255	5	Vitvi03g00385	5	Vitvi04g00515	5	Vitvi05g00251	5	Vitvi06g00107	5
Vitvi02g00274	5	Vitvi03g00396	5	Vitvi04g00536	5	Vitvi05g00254	5	Vitvi06g00125	5
Vitvi02g00290	5	Vitvi03g00485	5	Vitvi04g00555	5	Vitvi05g00303	5	Vitvi06g00128	5
Vitvi02g00308	5	Vitvi03g00492	5	Vitvi04g00603	5	Vitvi05g00318	5	Vitvi06g00129	5
Vitvi02g00313	5	Vitvi03g00587	5	Vitvi04g00613	5	Vitvi05g00320	5	Vitvi06g00166	5
Vitvi02g00315	5	Vitvi03g00600	5	Vitvi04g00629	5	Vitvi05g00335	5	Vitvi06g00170	5
Vitvi02g00383	5	Vitvi03g00766	5	Vitvi04g00664	5	Vitvi05g00340	5	Vitvi06g00189	5
Vitvi02g00389	5	Vitvi03g00855	5	Vitvi04g00665	5	Vitvi05g00366	5	Vitvi06g00212	5



Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi06g00261	5	Vitvi07g00103	5	Vitvi07g01522	5	Vitvi08g00813	5	Vitvi08g02181	5
Vitvi06g00272	5	Vitvi07g00119	5	Vitvi07g01556	5	Vitvi08g00835	5	Vitvi08g02190	5
Vitvi06g00280	5	Vitvi07g00122	5	Vitvi07g01561	5	Vitvi08g00850	5	Vitvi08g02233	5
Vitvi06g00286	5	Vitvi07g00145	5	Vitvi07g01569	5	Vitvi08g00926	5	Vitvi08g02315	5
Vitvi06g00314	5	Vitvi07g00179	5	Vitvi07g01573	5	Vitvi08g00955	5	Vitvi08g02363	5
Vitvi06g00339	5	Vitvi07g00182	5	Vitvi07g01605	5	Vitvi08g00971	5	Vitvi08g02403	5
Vitvi06g00344	5	Vitvi07g00194	5	Vitvi07g01619	5	Vitvi08g00992	5	Vitvi08g02419	5
Vitvi06g00347	5	Vitvi07g00195	5	Vitvi07g01621	5	Vitvi08g00993	5	Vitvi08g02460	5
Vitvi06g00349	5	Vitvi07g00197	5	Vitvi07g01639	5	Vitvi08g01008	5	Vitvi09g00027	5
Vitvi06g00358	5	Vitvi07g00200	5	Vitvi07g01701	5	Vitvi08g01027	5	Vitvi09g00043	5
Vitvi06g00367	5	Vitvi07g00205	5	Vitvi07g01800	5	Vitvi08g01067	5	Vitvi09g00089	5
Vitvi06g00497	5	Vitvi07g00218	5	Vitvi07g01827	5	Vitvi08g01095	5	Vitvi09g00093	5
Vitvi06g00536	5	Vitvi07g00223	5	Vitvi07g01835	5	Vitvi08g01123	5	Vitvi09g00115	5
Vitvi06g00589	5	Vitvi07g00268	5	Vitvi07g01851	5	Vitvi08g01125	5	Vitvi09g00210	5
Vitvi06g00670	5	Vitvi07g00303	5	Vitvi07g01879	5	Vitvi08g01183	5	Vitvi09g00281	5
Vitvi06g00691	5	Vitvi07g00306	5	Vitvi07g01897	5	Vitvi08g01302	5	Vitvi09g00312	5
Vitvi06g00702	5	Vitvi07g00323	5	Vitvi07g01917	5	Vitvi08g01409	5	Vitvi09g00327	5
Vitvi06g00775	5	Vitvi07g00340	5	Vitvi07g01946	5	Vitvi08g01468	5	Vitvi09g00345	5
Vitvi06g00786	5	Vitvi07g00343	5	Vitvi07g01984	5	Vitvi08g01522	5	Vitvi09g00370	5
Vitvi06g01017	5	Vitvi07g00403	5	Vitvi07g01999	5	Vitvi08g01527	5	Vitvi09g00402	5
Vitvi06g01036	5	Vitvi07g00409	5	Vitvi07g02021	5	Vitvi08g01588	5	Vitvi09g00404	5
Vitvi06g01053	5	Vitvi07g00429	5	Vitvi07g02038	5	Vitvi08g01599	5	Vitvi09g00442	5
Vitvi06g01070	5	Vitvi07g00442	5	Vitvi07g02130	5	Vitvi08g01630	5	Vitvi09g00520	5
Vitvi06g01122	5	Vitvi07g00479	5	Vitvi07g02133	5	Vitvi08g01638	5	Vitvi09g00523	5
Vitvi06g01168	5	Vitvi07g00520	5	Vitvi07g02375	5	Vitvi08g01713	5	Vitvi09g00576	5
Vitvi06g01250	5	Vitvi07g00531	5	Vitvi07g02415	5	Vitvi08g01716	5	Vitvi09g00606	5
Vitvi06g01254	5	Vitvi07g00581	5	Vitvi07g02548	5	Vitvi08g01719	5	Vitvi09g00617	5
Vitvi06g01271	5	Vitvi07g00613	5	Vitvi07g02550	5	Vitvi08g01728	5	Vitvi09g00649	5
Vitvi06g01295	5	Vitvi07g00630	5	Vitvi07g02603	5	Vitvi08g01730	5	Vitvi09g00722	5
Vitvi06g01314	5	Vitvi07g00640	5	Vitvi07g02621	5	Vitvi08g01732	5	Vitvi09g00765	5
Vitvi06g01348	5	Vitvi07g00658	5	Vitvi07g02787	5	Vitvi08g01741	5	Vitvi09g00794	5
Vitvi06g01427	5	Vitvi07g00739	5	Vitvi07g02817	5	Vitvi08g01769	5	Vitvi09g00826	5
Vitvi06g01444	5	Vitvi07g00806	5	Vitvi07g02869	5	Vitvi08g01773	5	Vitvi09g00967	5
Vitvi06g01481	5	Vitvi07g00908	5	Vitvi07g02887	5	Vitvi08g01778	5	Vitvi09g00969	5
Vitvi06g01501	5	Vitvi07g01079	5	Vitvi07g02891	5	Vitvi08g01796	5	Vitvi09g01029	5
Vitvi06g01511	5	Vitvi07g01114	5	Vitvi07g03046	5	Vitvi08g01809	5	Vitvi09g01263	5
Vitvi06g01563	5	Vitvi07g01127	5	Vitvi07g03051	5	Vitvi08g01810	5	Vitvi09g01372	5
Vitvi06g01694	5	Vitvi07g01129	5	Vitvi07g03172	5	Vitvi08g01813	5	Vitvi09g01459	5
Vitvi06g01722	5	Vitvi07g01165	5	Vitvi08g00001	5	Vitvi08g01864	5	Vitvi09g01483	5
Vitvi06g01782	5	Vitvi07g01196	5	Vitvi08g00056	5	Vitvi08g01916	5	Vitvi09g01654	5
Vitvi06g01806	5	Vitvi07g01205	5	Vitvi08g00070	5	Vitvi08g01917	5	Vitvi09g01677	5
Vitvi06g01844	5	Vitvi07g01211	5	Vitvi08g00072	5	Vitvi08g01929	5	Vitvi09g01990	5
Vitvi06g01909	5	Vitvi07g01215	5	Vitvi08g00114	5	Vitvi08g01945	5	Vitvi10g00038	5
Vitvi06g01948	5	Vitvi07g01253	5	Vitvi08g00163	5	Vitvi08g01946	5	Vitvi10g00057	5
Vitvi07g00026	5	Vitvi07g01346	5	Vitvi08g00290	5	Vitvi08g01960	5	Vitvi10g00080	5
Vitvi07g00038	5	Vitvi07g01393	5	Vitvi08g00640	5	Vitvi08g01983	5	Vitvi10g00084	5
Vitvi07g00049	5	Vitvi07g01501	5	Vitvi08g00641	5	Vitvi08g02088	5	Vitvi10g00098	5
Vitvi07g00089	5	Vitvi07g01502	5	Vitvi08g00780	5	Vitvi08g02161	5	Vitvi10g00115	5
Vitvi07g00100	5	Vitvi07g01503	5	Vitvi08g00784	5	Vitvi08g02164	5	Vitvi10g00127	5

Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi10g00132	5	Vitvi11g00187	5	Vitvi12g00754	5	Vitvi13g01070	5	Vitvi14g01545	5
Vitvi10g00136	5	Vitvi11g00190	5	Vitvi12g00828	5	Vitvi13g01351	5	Vitvi14g01548	5
Vitvi10g00165	5	Vitvi11g00206	5	Vitvi12g01866	5	Vitvi13g01353	5	Vitvi14g01554	5
Vitvi10g00170	5	Vitvi11g00225	5	Vitvi12g01998	5	Vitvi13g01398	5	Vitvi14g01585	5
Vitvi10g00173	5	Vitvi11g00229	5	Vitvi12g02014	5	Vitvi13g01402	5	Vitvi14g01590	5
Vitvi10g00190	5	Vitvi11g00295	5	Vitvi12g02042	5	Vitvi13g01540	5	Vitvi14g01602	5
Vitvi10g00195	5	Vitvi11g00308	5	Vitvi12g02046	5	Vitvi13g01556	5	Vitvi14g01624	5
Vitvi10g00209	5	Vitvi11g00374	5	Vitvi12g02055	5	Vitvi13g01770	5	Vitvi14g01626	5
Vitvi10g00213	5	Vitvi11g00436	5	Vitvi12g02058	5	Vitvi13g01803	5	Vitvi14g01632	5
Vitvi10g00221	5	Vitvi11g00445	5	Vitvi12g02074	5	Vitvi13g01915	5	Vitvi14g01655	5
Vitvi10g00249	5	Vitvi11g00452	5	Vitvi12g02122	5	Vitvi13g01959	5	Vitvi14g01676	5
Vitvi10g00277	5	Vitvi11g00517	5	Vitvi12g02144	5	Vitvi13g02003	5	Vitvi14g01677	5
Vitvi10g00297	5	Vitvi11g00573	5	Vitvi12g02145	5	Vitvi13g02041	5	Vitvi14g01682	5
Vitvi10g00386	5	Vitvi11g00590	5	Vitvi12g02174	5	Vitvi13g02492	5	Vitvi14g01694	5
Vitvi10g00471	5	Vitvi11g00676	5	Vitvi12g02175	5	Vitvi14g00002	5	Vitvi14g01703	5
Vitvi10g00484	5	Vitvi11g00710	5	Vitvi12g02441	5	Vitvi14g00052	5	Vitvi14g01796	5
Vitvi10g00571	5	Vitvi11g00730	5	Vitvi12g02442	5	Vitvi14g00075	5	Vitvi14g01810	5
Vitvi10g00679	5	Vitvi11g00796	5	Vitvi12g02721	5	Vitvi14g00086	5	Vitvi14g01817	5
Vitvi10g00682	5	Vitvi11g00818	5	Vitvi12g02726	5	Vitvi14g00089	5	Vitvi14g01823	5
Vitvi10g00713	5	Vitvi11g01104	5	Vitvi13g00003	5	Vitvi14g00091	5	Vitvi14g01871	5
Vitvi10g00738	5	Vitvi11g01106	5	Vitvi13g00013	5	Vitvi14g00096	5	Vitvi14g01896	5
Vitvi10g00781	5	Vitvi11g01198	5	Vitvi13g00029	5	Vitvi14g00172	5	Vitvi14g01940	5
Vitvi10g00834	5	Vitvi11g01232	5	Vitvi13g00106	5	Vitvi14g00175	5	Vitvi14g01961	5
Vitvi10g00878	5	Vitvi11g01379	5	Vitvi13g00135	5	Vitvi14g00191	5	Vitvi14g01981	5
Vitvi10g01091	5	Vitvi11g01390	5	Vitvi13g00136	5	Vitvi14g00229	5	Vitvi14g01989	5
Vitvi10g01334	5	Vitvi11g01465	5	Vitvi13g00190	5	Vitvi14g00251	5	Vitvi14g02506	5
Vitvi10g01351	5	Vitvi11g01608	5	Vitvi13g00193	5	Vitvi14g00255	5	Vitvi14g02526	5
Vitvi10g01558	5	Vitvi11g01646	5	Vitvi13g00198	5	Vitvi14g00322	5	Vitvi14g03093	5
Vitvi10g02120	5	Vitvi12g00029	5	Vitvi13g00213	5	Vitvi14g00336	5	Vitvi15g00044	5
Vitvi10g02200	5	Vitvi12g00034	5	Vitvi13g00240	5	Vitvi14g00418	5	Vitvi15g00144	5
Vitvi10g02266	5	Vitvi12g00157	5	Vitvi13g00241	5	Vitvi14g00431	5	Vitvi15g00516	5
Vitvi10g02267	5	Vitvi12g00170	5	Vitvi13g00274	5	Vitvi14g00477	5	Vitvi15g00533	5
Vitvi10g02344	5	Vitvi12g00178	5	Vitvi13g00280	5	Vitvi14g00492	5	Vitvi15g00569	5
Vitvi10g02348	5	Vitvi12g00198	5	Vitvi13g00293	5	Vitvi14g00560	5	Vitvi15g00600	5
Vitvi10g02353	5	Vitvi12g00215	5	Vitvi13g00334	5	Vitvi14g00561	5	Vitvi15g00621	5
Vitvi11g00021	5	Vitvi12g00264	5	Vitvi13g00349	5	Vitvi14g01118	5	Vitvi15g00628	5
Vitvi11g00027	5	Vitvi12g00267	5	Vitvi13g00526	5	Vitvi14g01160	5	Vitvi15g00639	5
Vitvi11g00042	5	Vitvi12g00287	5	Vitvi13g00565	5	Vitvi14g01194	5	Vitvi15g00694	5
Vitvi11g00049	5	Vitvi12g00322	5	Vitvi13g00610	5	Vitvi14g01339	5	Vitvi15g00696	5
Vitvi11g00064	5	Vitvi12g00435	5	Vitvi13g00637	5	Vitvi14g01349	5	Vitvi15g00723	5
Vitvi11g00128	5	Vitvi12g00485	5	Vitvi13g00656	5	Vitvi14g01364	5	Vitvi15g00817	5
Vitvi11g00137	5	Vitvi12g00615	5	Vitvi13g00710	5	Vitvi14g01400	5	Vitvi15g00857	5
Vitvi11g00154	5	Vitvi12g00619	5	Vitvi13g00732	5	Vitvi14g01471	5	Vitvi15g00883	5
Vitvi11g00155	5	Vitvi12g00667	5	Vitvi13g00740	5	Vitvi14g01497	5	Vitvi15g00903	5
Vitvi11g00164	5	Vitvi12g00669	5	Vitvi13g00918	5	Vitvi14g01509	5	Vitvi15g00926	5
Vitvi11g00167	5	Vitvi12g00683	5	Vitvi13g00922	5	Vitvi14g01517	5	Vitvi15g00938	5
Vitvi11g00168	5	Vitvi12g00717	5	Vitvi13g00954	5	Vitvi14g01519	5	Vitvi15g00954	5
Vitvi11g00182	5	Vitvi12g00727	5	Vitvi13g01021	5	Vitvi14g01533	5	Vitvi15g00986	5
Vitvi11g00185	5	Vitvi12g00750	5	Vitvi13g01058	5	Vitvi14g01537	5	Vitvi15g00999	5

Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi15g01014	5	Vitvi17g00141	5	Vitvi18g00531	5	Vitvi19g00124	5	Vitvi01g00842	6
Vitvi15g01016	5	Vitvi17g00143	5	Vitvi18g00548	5	Vitvi19g00132	5	Vitvi01g00861	6
Vitvi15g01080	5	Vitvi17g00156	5	Vitvi18g00556	5	Vitvi19g00157	5	Vitvi01g00954	6
Vitvi15g01086	5	Vitvi17g00177	5	Vitvi18g00647	5	Vitvi19g00220	5	Vitvi01g01236	6
Vitvi15g01096	5	Vitvi17g00196	5	Vitvi18g00657	5	Vitvi19g00231	5	Vitvi01g01362	6
Vitvi15g01097	5	Vitvi17g00223	5	Vitvi18g00659	5	Vitvi19g00241	5	Vitvi01g01680	6
Vitvi15g01098	5	Vitvi17g00335	5	Vitvi18g00748	5	Vitvi19g00245	5	Vitvi01g01724	6
Vitvi15g01107	5	Vitvi17g00411	5	Vitvi18g00752	5	Vitvi19g00287	5	Vitvi01g01801	6
Vitvi15g01128	5	Vitvi17g00475	5	Vitvi18g00755	5	Vitvi19g00292	5	Vitvi01g01935	6
Vitvi15g01142	5	Vitvi17g00485	5	Vitvi18g00762	5	Vitvi19g00370	5	Vitvi01g02031	6
Vitvi15g01147	5	Vitvi17g00498	5	Vitvi18g00783	5	Vitvi19g00371	5	Vitvi01g02254	6
Vitvi15g01403	5	Vitvi17g00553	5	Vitvi18g00785	5	Vitvi19g00376	5	Vitvi02g00066	6
Vitvi15g01427	5	Vitvi17g00575	5	Vitvi18g00834	5	Vitvi19g00406	5	Vitvi02g00071	6
Vitvi15g01435	5	Vitvi17g00587	5	Vitvi18g00868	5	Vitvi19g00420	5	Vitvi02g00130	6
Vitvi15g01553	5	Vitvi17g00604	5	Vitvi18g00887	5	Vitvi19g00436	5	Vitvi02g00263	6
Vitvi16g00020	5	Vitvi17g00660	5	Vitvi18g00933	5	Vitvi19g00509	5	Vitvi02g00343	6
Vitvi16g00035	5	Vitvi17g00669	5	Vitvi18g00938	5	Vitvi19g00610	5	Vitvi02g00382	6
Vitvi16g00096	5	Vitvi17g00690	5	Vitvi18g00952	5	Vitvi19g00708	5	Vitvi02g00393	6
Vitvi16g00115	5	Vitvi17g00754	5	Vitvi18g00969	5	Vitvi19g00720	5	Vitvi02g00473	6
Vitvi16g00310	5	Vitvi17g00823	5	Vitvi18g00975	5	Vitvi19g00744	5	Vitvi02g00533	6
Vitvi16g00834	5	Vitvi17g00824	5	Vitvi18g01006	5	Vitvi19g00900	5	Vitvi02g00541	6
Vitvi16g00935	5	Vitvi17g00899	5	Vitvi18g01013	5	Vitvi19g01305	5	Vitvi02g00605	6
Vitvi16g00957	5	Vitvi17g00910	5	Vitvi18g01020	5	Vitvi19g01408	5	Vitvi02g00651	6
Vitvi16g01083	5	Vitvi17g00930	5	Vitvi18g01024	5	Vitvi19g01440	5	Vitvi02g01182	6
Vitvi16g01096	5	Vitvi17g00936	5	Vitvi18g01067	5	Vitvi19g01507	5	Vitvi02g01222	6
Vitvi16g01104	5	Vitvi17g00958	5	Vitvi18g01103	5	Vitvi19g01707	5	Vitvi02g01288	6
Vitvi16g01134	5	Vitvi17g00975	5	Vitvi18g01113	5	Vitvi19g01752	5	Vitvi02g01302	6
Vitvi16g01309	5	Vitvi17g00986	5	Vitvi18g01160	5	Vitvi19g01772	5	Vitvi02g01399	6
Vitvi16g01311	5	Vitvi17g01037	5	Vitvi18g01601	5	Vitvi19g01773	5	Vitvi02g01408	6
Vitvi16g01315	5	Vitvi17g01346	5	Vitvi18g01625	5	Vitvi19g01776	5	Vitvi02g01438	6
Vitvi16g01333	5	Vitvi17g01399	5	Vitvi18g01729	5	Vitvi19g01842	5	Vitvi02g01440	6
Vitvi16g01348	5	Vitvi17g01512	5	Vitvi18g01869	5	Vitvi19g02145	5	Vitvi02g01466	6
Vitvi16g01365	5	Vitvi18g00045	5	Vitvi18g02152	5	Vitvi19g02257	5	Vitvi02g01615	6
Vitvi16g01367	5	Vitvi18g00047	5	Vitvi18g02236	5	Vitvi19g02381	5	Vitvi03g00118	6
Vitvi16g01377	5	Vitvi18g00102	5	Vitvi18g02323	5	Vitvi19g02382	5	Vitvi03g00126	6
Vitvi16g01379	5	Vitvi18g00146	5	Vitvi18g02360	5	Vitvi19g02389	5	Vitvi03g00206	6
Vitvi16g01539	5	Vitvi18g00151	5	Vitvi18g02390	5	Vitvi00g01151	6	Vitvi03g00213	6
Vitvi16g01542	5	Vitvi18g00184	5	Vitvi18g02484	5	Vitvi00g01431	6	Vitvi03g00238	6
Vitvi16g01562	5	Vitvi18g00223	5	Vitvi18g02593	5	Vitvi00g02270	6	Vitvi03g00298	6
Vitvi16g01804	5	Vitvi18g00299	5	Vitvi18g02629	5	Vitvi00g02305	6	Vitvi03g00480	6
Vitvi16g01805	5	Vitvi18g00333	5	Vitvi18g02970	5	Vitvi01g00034	6	Vitvi03g00541	6
Vitvi16g02055	5	Vitvi18g00352	5	Vitvi18g03162	5	Vitvi01g00141	6	Vitvi03g00566	6
Vitvi16g02077	5	Vitvi18g00387	5	Vitvi18g03270	5	Vitvi01g00188	6	Vitvi03g00586	6
Vitvi17g00004	5	Vitvi18g00413	5	Vitvi19g00003	5	Vitvi01g00189	6	Vitvi03g00606	6
Vitvi17g00019	5	Vitvi18g00480	5	Vitvi19g00043	5	Vitvi01g00415	6	Vitvi03g00783	6
Vitvi17g00036	5	Vitvi18g00485	5	Vitvi19g00102	5	Vitvi01g00465	6	Vitvi03g01138	6
Vitvi17g00051	5	Vitvi18g00486	5	Vitvi19g00104	5	Vitvi01g00716	6	Vitvi03g01434	6
Vitvi17g00074	5	Vitvi18g00487	5	Vitvi19g00114	5	Vitvi01g00787	6	Vitvi03g01597	6
Vitvi17g00099	5	Vitvi18g00515	5	Vitvi19g00115	5	Vitvi01g00793	6	Vitvi03g01605	6

Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi03g01650	6	Vitvi05g01757	6	Vitvi07g00315	6	Vitvi08g01506	6	Vitvi10g01599	6
Vitvi03g01651	6	Vitvi05g01758	6	Vitvi07g00320	6	Vitvi08g01546	6	Vitvi10g01606	6
Vitvi04g00009	6	Vitvi05g01759	6	Vitvi07g00353	6	Vitvi08g01554	6	Vitvi10g01765	6
Vitvi04g00133	6	Vitvi05g01760	6	Vitvi07g00357	6	Vitvi08g01611	6	Vitvi10g01798	6
Vitvi04g00216	6	Vitvi05g01833	6	Vitvi07g00395	6	Vitvi08g01670	6	Vitvi10g02175	6
Vitvi04g00313	6	Vitvi05g01893	6	Vitvi07g00431	6	Vitvi08g01701	6	Vitvi10g02259	6
Vitvi04g00328	6	Vitvi05g01931	6	Vitvi07g00534	6	Vitvi08g01844	6	Vitvi10g02335	6
Vitvi04g00511	6	Vitvi05g01962	6	Vitvi07g00567	6	Vitvi08g01943	6	Vitvi11g00050	6
Vitvi04g00616	6	Vitvi05g02240	6	Vitvi07g00575	6	Vitvi08g02131	6	Vitvi11g00055	6
Vitvi04g00890	6	Vitvi05g02251	6	Vitvi07g00586	6	Vitvi08g02211	6	Vitvi11g00108	6
Vitvi04g01216	6	Vitvi06g00035	6	Vitvi07g00598	6	Vitvi08g02225	6	Vitvi11g00195	6
Vitvi04g01220	6	Vitvi06g00137	6	Vitvi07g00684	6	Vitvi08g02246	6	Vitvi11g00242	6
Vitvi04g01235	6	Vitvi06g00205	6	Vitvi07g00736	6	Vitvi08g02333	6	Vitvi11g00261	6
Vitvi04g01412	6	Vitvi06g00356	6	Vitvi07g01107	6	Vitvi09g00019	6	Vitvi11g00417	6
Vitvi04g01492	6	Vitvi06g00365	6	Vitvi07g01108	6	Vitvi09g00085	6	Vitvi11g00485	6
Vitvi04g01546	6	Vitvi06g00393	6	Vitvi07g01413	6	Vitvi09g00086	6	Vitvi11g00486	6
Vitvi04g01566	6	Vitvi06g00394	6	Vitvi07g01476	6	Vitvi09g00193	6	Vitvi11g00575	6
Vitvi04g01633	6	Vitvi06g00460	6	Vitvi07g01730	6	Vitvi09g00301	6	Vitvi11g00924	6
Vitvi04g01702	6	Vitvi06g00490	6	Vitvi07g01749	6	Vitvi09g00342	6	Vitvi11g01272	6
Vitvi04g01775	6	Vitvi06g00565	6	Vitvi07g01791	6	Vitvi09g00476	6	Vitvi11g01415	6
Vitvi04g02017	6	Vitvi06g00712	6	Vitvi07g01908	6	Vitvi09g00479	6	Vitvi11g01429	6
Vitvi04g02205	6	Vitvi06g00713	6	Vitvi07g01929	6	Vitvi09g00500	6	Vitvi12g00065	6
Vitvi04g02206	6	Vitvi06g00745	6	Vitvi07g02555	6	Vitvi09g00559	6	Vitvi12g00066	6
Vitvi04g02275	6	Vitvi06g00771	6	Vitvi07g02597	6	Vitvi09g01017	6	Vitvi12g00220	6
Vitvi04g02283	6	Vitvi06g00946	6	Vitvi07g02650	6	Vitvi09g01122	6	Vitvi12g00234	6
Vitvi05g00041	6	Vitvi06g01075	6	Vitvi07g02990	6	Vitvi09g01271	6	Vitvi12g00251	6
Vitvi05g00065	6	Vitvi06g01280	6	Vitvi07g03026	6	Vitvi09g01399	6	Vitvi12g00443	6
Vitvi05g00071	6	Vitvi06g01396	6	Vitvi07g03049	6	Vitvi09g01401	6	Vitvi12g00445	6
Vitvi05g00072	6	Vitvi06g01421	6	Vitvi07g03083	6	Vitvi09g01521	6	Vitvi12g00633	6
Vitvi05g00107	6	Vitvi06g01423	6	Vitvi08g00017	6	Vitvi09g01554	6	Vitvi12g00649	6
Vitvi05g00164	6	Vitvi06g01599	6	Vitvi08g00171	6	Vitvi09g01980	6	Vitvi12g01449	6
Vitvi05g00242	6	Vitvi06g01600	6	Vitvi08g00189	6	Vitvi10g00186	6	Vitvi12g01724	6
Vitvi05g00381	6	Vitvi06g01601	6	Vitvi08g00258	6	Vitvi10g00223	6	Vitvi12g01874	6
Vitvi05g00399	6	Vitvi06g01602	6	Vitvi08g00793	6	Vitvi10g00285	6	Vitvi12g01876	6
Vitvi05g00440	6	Vitvi06g01603	6	Vitvi08g00824	6	Vitvi10g00475	6	Vitvi12g01878	6
Vitvi05g00459	6	Vitvi06g01604	6	Vitvi08g01022	6	Vitvi10g00508	6	Vitvi12g01979	6
Vitvi05g00468	6	Vitvi06g01605	6	Vitvi08g01043	6	Vitvi10g00509	6	Vitvi12g02063	6
Vitvi05g00523	6	Vitvi06g01612	6	Vitvi08g01101	6	Vitvi10g00599	6	Vitvi12g02116	6
Vitvi05g00524	6	Vitvi06g01613	6	Vitvi08g01103	6	Vitvi10g00618	6	Vitvi12g02388	6
Vitvi05g00553	6	Vitvi06g01629	6	Vitvi08g01129	6	Vitvi10g00630	6	Vitvi12g02498	6
Vitvi05g00576	6	Vitvi06g01649	6	Vitvi08g01137	6	Vitvi10g00902	6	Vitvi12g02508	6
Vitvi05g00699	6	Vitvi06g01713	6	Vitvi08g01196	6	Vitvi10g01023	6	Vitvi12g02658	6
Vitvi05g00802	6	Vitvi06g01961	6	Vitvi08g01243	6	Vitvi10g01029	6	Vitvi13g00019	6
Vitvi05g00839	6	Vitvi06g01973	6	Vitvi08g01267	6	Vitvi10g01120	6	Vitvi13g00035	6
Vitvi05g00979	6	Vitvi07g00011	6	Vitvi08g01295	6	Vitvi10g01335	6	Vitvi13g00187	6
Vitvi05g01309	6	Vitvi07g00012	6	Vitvi08g01300	6	Vitvi10g01391	6	Vitvi13g00289	6
Vitvi05g01480	6	Vitvi07g00071	6	Vitvi08g01311	6	Vitvi10g01392	6	Vitvi13g00305	6
Vitvi05g01583	6	Vitvi07g00130	6	Vitvi08g01377	6	Vitvi10g01595	6	Vitvi13g00597	6
Vitvi05g01733	6	Vitvi07g00142	6	Vitvi08g01475	6	Vitvi10g01596	6	Vitvi13g00639	6

Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi13g00654	6	Vitvi14g03041	6	Vitvi16g01467	6	Vitvi18g00635	6	Vitvi02g00416	7
Vitvi13g00766	6	Vitvi14g03050	6	Vitvi16g01468	6	Vitvi18g00675	6	Vitvi02g00437	7
Vitvi13g00832	6	Vitvi15g00017	6	Vitvi16g01469	6	Vitvi18g00754	6	Vitvi02g00606	7
Vitvi13g01234	6	Vitvi15g00595	6	Vitvi16g01470	6	Vitvi18g00759	6	Vitvi02g00638	7
Vitvi13g01379	6	Vitvi15g00597	6	Vitvi16g01471	6	Vitvi18g00839	6	Vitvi02g00708	7
Vitvi13g01389	6	Vitvi15g00704	6	Vitvi16g01472	6	Vitvi18g00899	6	Vitvi02g00726	7
Vitvi13g01603	6	Vitvi15g00706	6	Vitvi16g01474	6	Vitvi18g00909	6	Vitvi02g01143	7
Vitvi13g01626	6	Vitvi15g00787	6	Vitvi16g01475	6	Vitvi18g00997	6	Vitvi02g01230	7
Vitvi13g01828	6	Vitvi15g00844	6	Vitvi16g01477	6	Vitvi18g01438	6	Vitvi02g01264	7
Vitvi13g01861	6	Vitvi15g00867	6	Vitvi16g01478	6	Vitvi18g01608	6	Vitvi03g00110	7
Vitvi13g01907	6	Vitvi15g00928	6	Vitvi16g01479	6	Vitvi18g01926	6	Vitvi03g00209	7
Vitvi13g02043	6	Vitvi15g00990	6	Vitvi16g01481	6	Vitvi18g02533	6	Vitvi03g00251	7
Vitvi13g02295	6	Vitvi15g01035	6	Vitvi16g01482	6	Vitvi18g02534	6	Vitvi03g00481	7
Vitvi13g02509	6	Vitvi15g01060	6	Vitvi16g01483	6	Vitvi18g02571	6	Vitvi03g00598	7
Vitvi13g02574	6	Vitvi15g01089	6	Vitvi16g01484	6	Vitvi18g02585	6	Vitvi03g00708	7
Vitvi14g00021	6	Vitvi15g01101	6	Vitvi16g01485	6	Vitvi18g02837	6	Vitvi03g00780	7
Vitvi14g00022	6	Vitvi15g01151	6	Vitvi16g01486	6	Vitvi18g02906	6	Vitvi03g00790	7
Vitvi14g00023	6	Vitvi15g01467	6	Vitvi16g01502	6	Vitvi18g03065	6	Vitvi03g01393	7
Vitvi14g00065	6	Vitvi15g01490	6	Vitvi16g01503	6	Vitvi18g03077	6	Vitvi03g01524	7
Vitvi14g00088	6	Vitvi15g01491	6	Vitvi16g01507	6	Vitvi18g03244	6	Vitvi03g01872	7
Vitvi14g00158	6	Vitvi15g01537	6	Vitvi16g01536	6	Vitvi18g03248	6	Vitvi04g00103	7
Vitvi14g00234	6	Vitvi15g01576	6	Vitvi16g01776	6	Vitvi19g00111	6	Vitvi04g00192	7
Vitvi14g00389	6	Vitvi16g00054	6	Vitvi16g02072	6	Vitvi19g00143	6	Vitvi04g00241	7
Vitvi14g00413	6	Vitvi16g00055	6	Vitvi17g00068	6	Vitvi19g00205	6	Vitvi04g00342	7
Vitvi14g00417	6	Vitvi16g00057	6	Vitvi17g00178	6	Vitvi19g00280	6	Vitvi04g01174	7
Vitvi14g00485	6	Vitvi16g00060	6	Vitvi17g00291	6	Vitvi19g00502	6	Vitvi04g01221	7
Vitvi14g00500	6	Vitvi16g00061	6	Vitvi17g00336	6	Vitvi19g00631	6	Vitvi04g01225	7
Vitvi14g00619	6	Vitvi16g00066	6	Vitvi17g00413	6	Vitvi19g00633	6	Vitvi04g01404	7
Vitvi14g01044	6	Vitvi16g00311	6	Vitvi17g00546	6	Vitvi19g00636	6	Vitvi04g01860	7
Vitvi14g01187	6	Vitvi16g00349	6	Vitvi17g00561	6	Vitvi19g00641	6	Vitvi04g02136	7
Vitvi14g01379	6	Vitvi16g00712	6	Vitvi17g00563	6	Vitvi19g00995	6	Vitvi04g02143	7
Vitvi14g01439	6	Vitvi16g00942	6	Vitvi17g00616	6	Vitvi19g01048	6	Vitvi04g02160	7
Vitvi14g01481	6	Vitvi16g00988	6	Vitvi17g00656	6	Vitvi19g01864	6	Vitvi05g00272	7
Vitvi14g01527	6	Vitvi16g00991	6	Vitvi17g00664	6	Vitvi19g01873	6	Vitvi05g00437	7
Vitvi14g01560	6	Vitvi16g00993	6	Vitvi17g00826	6	Vitvi19g01939	6	Vitvi05g00485	7
Vitvi14g01596	6	Vitvi16g00995	6	Vitvi17g00964	6	Vitvi19g02007	6	Vitvi05g01108	7
Vitvi14g01605	6	Vitvi16g00997	6	Vitvi17g00974	6	Vitvi19g02022	6	Vitvi05g01763	7
Vitvi14g01607	6	Vitvi16g01366	6	Vitvi17g00977	6	Vitvi19g02039	6	Vitvi05g01947	7
Vitvi14g01757	6	Vitvi16g01456	6	Vitvi17g01451	6	Vitvi19g02149	6	Vitvi05g01950	7
Vitvi14g01765	6	Vitvi16g01457	6	Vitvi17g01490	6	Vitvi01g00587	7	Vitvi05g01953	7
Vitvi14g01938	6	Vitvi16g01458	6	Vitvi17g01523	6	Vitvi01g01284	7	Vitvi05g02123	7
Vitvi14g01965	6	Vitvi16g01459	6	Vitvi17g01527	6	Vitvi01g01476	7	Vitvi05g02250	7
Vitvi14g01967	6	Vitvi16g01460	6	Vitvi18g00013	6	Vitvi01g01657	7	Vitvi06g00158	7
Vitvi14g02502	6	Vitvi16g01461	6	Vitvi18g00226	6	Vitvi01g02261	7	Vitvi06g00182	7
Vitvi14g02539	6	Vitvi16g01462	6	Vitvi18g00256	6	Vitvi01g02263	7	Vitvi06g00258	7
Vitvi14g02553	6	Vitvi16g01463	6	Vitvi18g00328	6	Vitvi01g02265	7	Vitvi06g00526	7
Vitvi14g02659	6	Vitvi16g01464	6	Vitvi18g00362	6	Vitvi02g00046	7	Vitvi06g00621	7
Vitvi14g03031	6	Vitvi16g01465	6	Vitvi18g00368	6	Vitvi02g00228	7	Vitvi06g00643	7
Vitvi14g03035	6	Vitvi16g01466	6	Vitvi18g00504	6	Vitvi02g00232	7	Vitvi06g00984	7

Gene ID	Cluster	Gene ID	Cluster	Gene ID	Cluster
Vitvi06g01172	7	Vitvi10g00524	7	Vitvi14g02439	7
Vitvi06g01179	7	Vitvi10g00591	7	Vitvi14g02463	7
Vitvi06g01187	7	Vitvi10g01753	7	Vitvi14g02510	7
Vitvi06g01391	7	Vitvi10g02174	7	Vitvi14g02557	7
Vitvi06g01715	7	Vitvi11g00145	7	Vitvi14g03084	7
Vitvi06g01718	7	Vitvi11g00318	7	Vitvi15g00791	7
Vitvi06g01830	7	Vitvi11g00393	7	Vitvi15g00859	7
Vitvi06g01884	7	Vitvi11g00689	7	Vitvi15g01019	7
Vitvi07g00139	7	Vitvi11g00835	7	Vitvi15g01071	7
Vitvi07g00538	7	Vitvi11g00869	7	Vitvi15g01160	7
Vitvi07g01351	7	Vitvi11g00879	7	Vitvi15g01182	7
Vitvi07g01439	7	Vitvi11g01114	7	Vitvi16g00071	7
Vitvi07g01468	7	Vitvi11g01115	7	Vitvi16g00752	7
Vitvi07g01636	7	Vitvi11g01385	7	Vitvi16g01078	7
Vitvi07g01702	7	Vitvi11g01463	7	Vitvi16g01191	7
Vitvi07g02148	7	Vitvi12g00316	7	Vitvi16g01450	7
Vitvi07g02602	7	Vitvi12g00456	7	Vitvi16g02061	7
Vitvi07g02631	7	Vitvi12g01813	7	Vitvi17g00218	7
Vitvi07g02643	7	Vitvi12g02022	7	Vitvi17g00283	7
Vitvi07g02645	7	Vitvi12g02140	7	Vitvi17g00584	7
Vitvi08g00069	7	Vitvi12g02167	7	Vitvi17g00600	7
Vitvi08g00235	7	Vitvi12g02184	7	Vitvi17g00601	7
Vitvi08g00240	7	Vitvi12g02466	7	Vitvi17g00755	7
Vitvi08g00642	7	Vitvi12g02755	7	Vitvi17g01105	7
Vitvi08g00766	7	Vitvi13g00005	7	Vitvi17g01498	7
Vitvi08g00854	7	Vitvi13g00288	7	Vitvi18g00008	7
Vitvi08g00877	7	Vitvi13g00295	7	Vitvi18g00131	7
Vitvi08g01097	7	Vitvi13g00452	7	Vitvi18g00163	7
Vitvi08g01134	7	Vitvi13g00605	7	Vitvi18g00183	7
Vitvi08g01206	7	Vitvi13g00621	7	Vitvi18g00583	7
Vitvi08g01216	7	Vitvi13g00623	7	Vitvi18g00593	7
Vitvi08g01753	7	Vitvi13g00738	7	Vitvi18g00597	7
Vitvi08g01971	7	Vitvi13g00934	7	Vitvi18g00687	7
Vitvi08g02368	7	Vitvi13g01114	7	Vitvi18g00691	7
Vitvi08g02394	7	Vitvi13g01433	7	Vitvi18g00716	7
Vitvi09g00018	7	Vitvi13g02022	7	Vitvi18g00838	7
Vitvi09g00040	7	Vitvi13g02046	7	Vitvi18g00948	7
Vitvi09g00185	7	Vitvi14g00103	7	Vitvi18g00955	7
Vitvi09g00264	7	Vitvi14g00168	7	Vitvi18g00991	7
Vitvi09g00307	7	Vitvi14g00445	7	Vitvi18g01010	7
Vitvi09g00427	7	Vitvi14g00974	7	Vitvi18g01085	7
Vitvi09g00477	7	Vitvi14g00996	7	Vitvi18g01147	7
Vitvi09g00478	7	Vitvi14g01137	7	Vitvi18g01167	7
Vitvi09g01621	7	Vitvi14g01138	7	Vitvi18g01628	7
Vitvi10g00027	7	Vitvi14g01413	7	Vitvi18g02327	7
Vitvi10g00044	7	Vitvi14g01665	7	Vitvi18g02818	7
Vitvi10g00150	7	Vitvi14g01683	7	Vitvi18g02819	7
Vitvi10g00245	7	Vitvi14g01892	7	Vitvi18g02881	7
Vitvi10g00402	7	Vitvi14g01977	7	Vitvi19g00514	7

Complete list of GO functional enrichment analysis run with the web tool g: Profiler  
(<https://biit.cs.ut.ee/gprofiler/gost>)

GO:MF		stats			Cluster 1 & 2	
Term name	Term ID	P <sub>adj</sub>	$-\log_{10}(P_{adj})$	0	$\leq 16$	
water transmembrane transporter activity	GO:0005372	$4.707 \times 10^{-6}$				
water channel activity	GO:0015250	$4.707 \times 10^{-6}$				
catalytic activity	GO:0003824	$1.387 \times 10^{-4}$				
transporter activity	GO:0005215	$2.017 \times 10^{-4}$				
transmembrane transporter activity	GO:0022857	$2.358 \times 10^{-4}$				
racemase and epimerase activity	GO:0016854	$2.232 \times 10^{-3}$				

GO:BP		stats				
Term name	Term ID	P <sub>adj</sub>	$-\log_{10}(P_{adj})$	0	$\leq 16$	
small molecule metabolic process	GO:0044281	$2.423 \times 10^{-6}$				
water transport	GO:0006833	$3.762 \times 10^{-4}$				
fluid transport	GO:0042044	$3.762 \times 10^{-4}$				
carbohydrate metabolic process	GO:0005975	$1.252 \times 10^{-3}$				
transmembrane transport	GO:0055085	$3.051 \times 10^{-3}$				
localization	GO:0051179	$5.081 \times 10^{-3}$				
monosaccharide metabolic process	GO:0005996	$1.878 \times 10^{-2}$				
hexose metabolic process	GO:0019318	$2.016 \times 10^{-2}$				
transport	GO:0006810	$2.429 \times 10^{-2}$				
establishment of localization	GO:0051234	$3.366 \times 10^{-2}$				

GO:CC		stats				
Term name	Term ID	P <sub>adj</sub>	$-\log_{10}(P_{adj})$	0	$\leq 16$	
cytoplasm	GO:0005737	$2.358 \times 10^{-16}$				
Golgi apparatus	GO:0005794	$4.421 \times 10^{-9}$				
Golgi apparatus subcompartment	GO:0098791	$4.006 \times 10^{-5}$				
trans-Golgi network	GO:0005802	$2.827 \times 10^{-4}$				
endomembrane system	GO:0012505	$3.810 \times 10^{-4}$				
chloroplast	GO:0009507	$2.129 \times 10^{-3}$				
cell periphery	GO:0071944	$2.425 \times 10^{-3}$				
plastid	GO:0009536	$4.793 \times 10^{-3}$				
endosome	GO:0005768	$4.854 \times 10^{-3}$				
plasma membrane	GO:0005886	$1.204 \times 10^{-2}$				
cell cortex	GO:0005938	$2.655 \times 10^{-2}$				
cortical microtubule	GO:0055028	$4.414 \times 10^{-2}$				
cortical microtubule cytoskeleton	GO:0030981	$4.414 \times 10^{-2}$				

KEGG		stats				
Term name	Term ID	P <sub>adj</sub>	$-\log_{10}(P_{adj})$	0	$\leq 16$	
Metabolic pathways	KEGG:01100	$6.464 \times 10^{-4}$				
Biosynthesis of nucleotide sugars	KEGG:01250	$6.943 \times 10^{-3}$				

GO:MF			stats	Cluster 3
Term name	Term ID	P <sub>adj</sub>	$-\log_{10}(P_{adj})$	0 $\leq 16$
transporter activity	GO:0005215	$6.434 \times 10^{-3}$	1.19	
zinc ion transmembrane transporter activity	GO:0005385	$1.701 \times 10^{-2}$	0.76	
transmembrane transporter activity	GO:0022857	$3.077 \times 10^{-2}$	0.51	

GO:BP			stats
Term name	Term ID	P <sub>adj</sub>	$-\log_{10}(P_{adj})$
zinc ion transmembrane transport	GO:0071577	$4.320 \times 10^{-2}$	0.36

GO:CC			stats
Term name	Term ID	P <sub>adj</sub>	$-\log_{10}(P_{adj})$
plasma membrane	GO:0005886	$6.474 \times 10^{-3}$	1.19
cell periphery	GO:0071944	$1.435 \times 10^{-2}$	0.70

KEGG			stats
Term name	Term ID	P <sub>adj</sub>	$-\log_{10}(P_{adj})$
Arachidonic acid metabolism	KEGG:00590	$2.513 \times 10^{-2}$	0.60





GO:MF		stats		Cluster 6 & 7	
Term name	Term ID	P <sub>adj</sub>	$-\log_{10}(P_{adj})$	0	≤16
catalytic activity	GO:0003824	1.956×10 <sup>-15</sup>			
monocarboxylic acid binding	GO:0033293	3.506×10 <sup>-4</sup>			
oxidoreductase activity	GO:0016491	6.124×10 <sup>-4</sup>			
carboxylic acid binding	GO:0031406	1.107×10 <sup>-2</sup>			
abscisic acid binding	GO:0010427	1.637×10 <sup>-2</sup>			
acyltransferase activity, transferring groups other than amin...	GO:0016747	2.035×10 <sup>-2</sup>			
isoprenoid binding	GO:0019840	2.247×10 <sup>-2</sup>			
hormone binding	GO:0042562	3.026×10 <sup>-2</sup>			

GO:BP		stats			
Term name	Term ID	P <sub>adj</sub>	$-\log_{10}(P_{adj})$	0	≤16
carboxylic acid metabolic process	GO:0019752	9.168×10 <sup>-10</sup>			
small molecule metabolic process	GO:0044281	1.012×10 <sup>-9</sup>			
monocarboxylic acid metabolic process	GO:0032787	1.152×10 <sup>-9</sup>			
organic acid metabolic process	GO:0006082	1.436×10 <sup>-9</sup>			
oxoacid metabolic process	GO:0043436	2.120×10 <sup>-9</sup>			
small molecule biosynthetic process	GO:0044283	1.090×10 <sup>-5</sup>			
carbohydrate catabolic process	GO:0016052	3.777×10 <sup>-5</sup>			
purine-containing compound metabolic process	GO:0072521	4.488×10 <sup>-5</sup>			
secondary metabolite biosynthetic process	GO:0044550	1.215×10 <sup>-4</sup>			
carbohydrate metabolic process	GO:0005975	1.647×10 <sup>-4</sup>			
organic acid biosynthetic process	GO:0016053	2.024×10 <sup>-4</sup>			
monocarboxylic acid biosynthetic process	GO:0072330	2.924×10 <sup>-4</sup>			
purine nucleotide metabolic process	GO:0006163	4.288×10 <sup>-4</sup>			
secondary metabolic process	GO:0019748	5.044×10 <sup>-4</sup>			
nucleobase-containing small molecule metabolic process	GO:0055086	8.457×10 <sup>-4</sup>			
carboxylic acid biosynthetic process	GO:0046394	1.110×10 <sup>-3</sup>			
pyruvate metabolic process	GO:0006090	1.409×10 <sup>-3</sup>			
ADP metabolic process	GO:0046031	2.134×10 <sup>-3</sup>			
ATP generation from ADP	GO:0006757	2.134×10 <sup>-3</sup>			
glycolytic process	GO:0006096	2.134×10 <sup>-3</sup>			
purine nucleoside diphosphate metabolic process	GO:0009135	2.681×10 <sup>-3</sup>			
purine ribonucleoside diphosphate metabolic process	GO:0009179	2.681×10 <sup>-3</sup>			
nucleotide metabolic process	GO:0009117	3.019×10 <sup>-3</sup>			
ribonucleoside diphosphate metabolic process	GO:0009185	4.606×10 <sup>-3</sup>			
nucleoside diphosphate phosphorylation	GO:0006165	5.660×10 <sup>-3</sup>			
nucleoside phosphate metabolic process	GO:0006753	6.581×10 <sup>-3</sup>			
nucleotide phosphorylation	GO:0046939	6.916×10 <sup>-3</sup>			
fatty acid metabolic process	GO:0006631	1.345×10 <sup>-2</sup>			
regulation of protein serine/threonine phosphatase activity	GO:0080163	1.391×10 <sup>-2</sup>			
organic hydroxy compound biosynthetic process	GO:1901617	1.697×10 <sup>-2</sup>			
purine-containing compound biosynthetic process	GO:0072522	2.082×10 <sup>-2</sup>			
phenylpropanoid biosynthetic process	GO:0009699	2.375×10 <sup>-2</sup>			
nucleoside diphosphate metabolic process	GO:0009132	2.451×10 <sup>-2</sup>			
fatty acid biosynthetic process	GO:0006633	2.893×10 <sup>-2</sup>			
phenylpropanoid metabolic process	GO:0009698	3.287×10 <sup>-2</sup>			
regulation of protein dephosphorylation	GO:0035304	4.147×10 <sup>-2</sup>			
generation of precursor metabolites and energy	GO:0006091	4.577×10 <sup>-2</sup>			

GO:CC		stats			
Term name	Term ID	P <sub>adj</sub>	$-\log_{10}(P_{adj})$	0	≤16
extracellular region	GO:0005576	4.742×10 <sup>-8</sup>			

KEGG		stats			
Term name	Term ID	P <sub>adj</sub>	$-\log_{10}(P_{adj})$	0	≤16
Metabolic pathways	KEGG:01100	1.432×10 <sup>-5</sup>			
Biosynthesis of secondary metabolites	KEGG:01110	9.803×10 <sup>-5</sup>			
Carbon metabolism	KEGG:01200	2.637×10 <sup>-4</sup>			
Biosynthesis of amino acids	KEGG:01230	1.388×10 <sup>-3</sup>			
Glycolysis / Gluconeogenesis	KEGG:00010	3.056×10 <sup>-2</sup>			