

Supplementary information, Table S13 Functional enrichment categories of 36 PSGs detected shared by F_{ST} , P_i , XP-CLR and XP-EHH

Term	Term ID	P-value	Gene number	Description
hp	HP:0000006	5.00E-02	2	Autosomal dominant inheritance
hp	HP:0000005	4.91E-02	6	Mode of inheritance
hp	HP:0000951	4.85E-02	2	Abnormality of the skin
hp	HP:0000079	4.28E-02	2	Abnormality of the urinary system
hp	HP:0011354	4.13E-02	2	Generalized abnormality of skin
hp	HP:0001574	4.02E-02	3	Abnormality of the integument
hp	HP:0100022	3.66E-02	2	Abnormality of movement
hp	HP:0002814	3.61E-02	2	Abnormality of the lower limb
hp	HP:0000364	3.45E-02	2	Hearing abnormality
hp	HP:0000365	3.38E-02	2	Hearing impairment
hp	HP:0000478	3.38E-02	4	Abnormality of the eye
hp	HP:0012243	3.30E-02	2	Abnormal genital system morphology
hp	HP:0002817	3.29E-02	2	Abnormality of the upper limb
hp	HP:0001249	3.25E-02	2	Intellectual disability
hp	HP:0012759	3.24E-02	3	Neurodevelopmental abnormality
hp	HP:0000002	3.20E-02	2	Abnormality of body height
hp	HP:0011024	3.16E-02	2	Abnormality of the gastrointestinal tract
hp	HP:0000240	3.15E-02	2	Abnormality of skull size
hp	HP:0011805	3.13E-02	2	Abnormality of muscle morphology
hp	HP:0004323	3.11E-02	2	Abnormality of body weight
hp	HP:0002493	3.07E-02	2	Upper motor neuron dysfunction
hp	HP:0000598	3.07E-02	3	Abnormality of the ear
hp	HP:0002012	3.05E-02	3	Abnormality of the abdominal organs
hp	HP:0004328	3.03E-02	2	Abnormality of the anterior segment of the eye
hp	HP:0001155	3.02E-02	2	Abnormality of the hand
hp	HP:0004322	2.99E-02	2	Short stature
hp	HP:0010935	2.97E-02	2	Abnormality of the upper urinary tract
hp	HP:0002597	2.87E-02	2	Abnormality of the vasculature
hp	HP:0007364	2.87E-02	2	Aplasia/Hypoplasia of the cerebrum
hp	HP:0040064	2.85E-02	3	Abnormality of limbs
hp	HP:0000818	2.84E-02	2	Abnormality of the endocrine system
hp	HP:0012718	2.78E-02	2	Morphological abnormality of the gastrointestinal tract
hp	HP:0001392	2.78E-02	2	Abnormality of the liver
hp	HP:0001760	2.77E-02	2	Abnormality of the foot
hp	HP:0011458	2.71E-02	2	Abdominal symptom
hp	HP:0001263	2.66E-02	2	Global developmental delay

hp	HP:0003674	2.62E-02	2	Onset
hp	HP:0000811	2.49E-02	2	Abnormal external genitalia
hp	HP:0010461	2.47E-02	2	Abnormality of the male genitalia
hp	HP:0000032	2.40E-02	2	Abnormality of male external genitalia
hp	HP:0009115	2.35E-02	2	Aplasia/hypoplasia involving the skeleton
hp	HP:0001595	2.32E-02	2	Abnormality of the hair
hp	HP:0001438	2.29E-02	4	Abnormality of the abdomen
hp	HP:0011025	2.26E-02	2	Abnormality of cardiovascular system physiology
hp	HP:0000492	2.23E-02	2	Abnormality of the eyelid
hp	HP:0040195	2.16E-02	2	Decreased head circumference
hp	HP:0000252	2.16E-02	2	Microcephaly
hp	HP:0000007	2.11E-02	5	Autosomal recessive inheritance
hp	HP:0004325	2.09E-02	2	Decreased body weight
hp	HP:0100547	2.09E-02	3	Abnormality of forebrain morphology
hp	HP:0002664	2.08E-02	2	Neoplasm
hp	HP:0002060	2.08E-02	3	Abnormality of the cerebrum
hp	HP:0000707	2.07E-02	6	Abnormality of the nervous system
hp	HP:0000174	2.04E-02	2	Abnormality of the palate
hp	HP:0000163	2.03E-02	3	Abnormality of the oral cavity
hp	HP:0000315	2.02E-02	2	Abnormality of the orbital region
hp	HP:0001250	2.02E-02	3	Seizures
hp	HP:0001324	2.01E-02	2	Muscle weakness
hp	HP:0000119	1.99E-02	4	Abnormality of the genitourinary system
hp	HP:0000359	1.98E-02	2	Abnormality of the inner ear
hp	HP:0001626	1.98E-02	4	Abnormality of the cardiovascular system
hp	HP:0011389	1.96E-02	2	Functional abnormality of the inner ear
hp	HP:0001507	1.95E-02	4	Growth abnormality
hp	HP:0000035	1.92E-02	2	Abnormality of the testis
hp	HP:0002715	1.89E-02	3	Abnormality of the immune system
hp	HP:0000159	1.88E-02	2	Abnormality of the lip
hp	HP:0000479	1.87E-02	2	Abnormality of the retina
hp	HP:0000924	1.87E-02	5	Abnormality of the skeletal system
hp	HP:0000422	1.86E-02	2	Abnormality of the nasal bridge
hp	HP:0012372	1.85E-02	4	Abnormal eye morphology
hp	HP:0000407	1.84E-02	2	Sensorineural hearing impairment
hp	HP:0000152	1.79E-02	5	Abnormality of head or neck
hp	HP:0005105	1.78E-02	2	Abnormal nasal morphology
hp	HP:0012374	1.78E-02	4	Abnormality of the globe
hp	HP:0012373	1.78E-02	4	Abnormal eye physiology
hp	HP:0000277	1.75E-02	2	Abnormality of the mandible
hp	HP:0000517	1.73E-02	2	Abnormality of the lens
hp	HP:0000366	1.72E-02	3	Abnormality of the nose

hp	HP:0000234	1.71E-02	5	Abnormality of the head
hp	HP:0000078	1.70E-02	3	Abnormality of the genital system
hp	HP:0002977	1.68E-02	3	Aplasia/Hypoplasia involving the central nervous system
hp	HP:0011844	1.67E-02	3	Abnormal appendicular skeleton morphology
hp	HP:0000290	1.65E-02	2	Abnormality of the forehead
hp	HP:0000518	1.64E-02	2	Cataract
hp	HP:0001276	1.62E-02	2	Hypertonia
hp	HP:0003549	1.61E-02	3	Abnormality of connective tissue
hp	HP:0010938	1.59E-02	2	Abnormality of the external nose
hp	HP:0100886	1.59E-02	2	Abnormality of globe location
hp	HP:0000284	1.58E-02	3	Abnormality of the ocular region
hp	HP:0012758	1.58E-02	3	Neurodevelopmental delay
hp	HP:0011446	1.57E-02	4	Abnormality of higher mental function
hp	HP:0011842	1.57E-02	5	Abnormality of skeletal morphology
hp	HP:0040068	1.56E-02	3	Abnormality of limb bone
hp	HP:0012638	1.45E-02	6	Abnormality of nervous system physiology
hp	HP:0001627	1.42E-02	3	Abnormality of cardiac morphology
hp	HP:0002813	1.40E-02	3	Abnormality of limb bone morphology
hp	HP:0012639	1.36E-02	5	Abnormality of nervous system morphology
hp	HP:0002564	1.32E-02	3	Malformation of the heart and great vessels
hp	HP:0000481	1.31E-02	2	Abnormality of the cornea
ke	KEGG:01100	1.29E-02	2	Metabolic pathways
hp	HP:0011138	1.25E-02	3	Abnormality of skin adnexa
hp	HP:0000177	1.24E-02	2	Abnormality of upper lip
hp	HP:0100763	1.19E-02	2	Abnormality of the lymphatic system
hp	HP:0000028	1.16E-02	2	Cryptorchidism
hp	HP:0000925	1.16E-02	3	Abnormality of the vertebral column
hp	HP:0000271	1.11E-02	5	Abnormality of the face
hp	HP:0000202	1.08E-02	2	Oral cleft
hp	HP:0000153	1.08E-02	4	Abnormality of the mouth
hp	HP:0000508	1.06E-02	2	Ptosis
hp	HP:0000316	1.03E-02	2	Hypertelorism
hp	HP:0003812	1.03E-02	2	Phenotypic variability
hp	HP:0001780	1.01E-02	2	Abnormality of toe
hp	HP:0011297	1.01E-02	3	Abnormality of digit
hp	HP:0000429	9.59E-03	2	Abnormality of the nasal alae
hp	HP:0000606	9.32E-03	3	Abnormality of the periorbital region
hp	HP:0010936	9.20E-03	2	Abnormality of the lower urinary tract
hp	HP:0001197	9.20E-03	2	Abnormality of prenatal development or birth
hp	HP:0002011	9.20E-03	5	Morphological abnormality of the central nervous system
hp	HP:0011442	9.02E-03	4	Abnormality of central motor function

hp	HP:0100737	8.98E-03	2	Abnormality of the hard palate
hp	HP:0000175	8.87E-03	2	Cleft palate
hp	HP:0011843	8.65E-03	2	Abnormality of skeletal physiology
hp	HP:0000464	8.59E-03	2	Abnormality of the neck
hp	HP:0011821	8.30E-03	3	Abnormality of facial skeleton
hp	HP:0005288	8.16E-03	2	Abnormality of the nares
hp	HP:0012547	7.80E-03	3	Abnormal involuntary eye movements
hp	HP:0000639	7.72E-03	3	Nystagmus
hp	HP:0000463	7.69E-03	2	Anteverted nares
hp	HP:0009121	7.52E-03	5	Abnormal axial skeleton morphology
hp	HP:0011927	7.32E-03	2	Short digit
hp	HP:0000309	7.27E-03	2	Abnormality of the midface
hp	HP:0012823	6.90E-03	4	Clinical modifier
hp	HP:0012443	6.51E-03	5	Abnormality of brain morphology
hp	HP:0000534	6.46E-03	2	Abnormality of the eyebrow
hp	HP:0001510	6.38E-03	4	Growth delay
hp	HP:0003593	6.36E-03	2	Infantile onset
hp	HP:0000539	6.07E-03	2	Abnormality of refraction
hp	HP:0100543	5.95E-03	4	Cognitive impairment
hp	HP:0000496	5.37E-03	4	Abnormality of eye movement
hp	HP:0000286	5.26E-03	2	Epicanthus
hp	HP:0011443	5.02E-03	3	Abnormality of coordination
hp	HP:0001252	4.99E-03	4	Muscular hypotonia
hp	HP:0008056	4.94E-03	2	Aplasia/Hypoplasia affecting the eye
hp	HP:0000505	4.71E-03	3	Visual impairment
hp	HP:0001156	4.32E-03	2	Brachydactyly syndrome
hp	HP:0003319	3.90E-03	2	Abnormality of the cervical spine
hp	HP:0000545	3.81E-03	2	Myopia
hp	HP:0000929	3.48E-03	5	Abnormality of the skull
hp	HP:0000587	3.47E-03	3	Abnormality of the optic nerve
hp	HP:0000470	3.33E-03	2	Short neck
hp	HP:0007957	3.25E-03	2	Corneal opacity
hp	HP:0002648	3.17E-03	3	Abnormality of calvarial morphology
hp	HP:0000927	3.14E-03	2	Abnormality of skeletal maturation
hp	HP:0004329	2.90E-03	4	Abnormality of the posterior segment of the eye
hp	HP:0001098	2.87E-03	4	Abnormality of the fundus
hp	HP:0012795	2.86E-03	3	Abnormality of the optic disc
hp	HP:0003011	2.86E-03	6	Abnormality of the musculature
hp	HP:0000864	2.77E-03	2	Abnormality of the hypothalamus-pituitary axis
hp	HP:0001551	2.38E-03	2	Abnormality of the umbilicus
hp	HP:0001537	2.28E-03	2	Umbilical hernia

hp	HP:0003808	2.28E-03	5	Abnormal muscle tone
hp	HP:0000648	2.26E-03	3	Optic atrophy
hp	HP:0001251	2.22E-03	3	Ataxia
hp	HP:0002118	2.09E-03	3	Abnormality of the cerebral ventricles
hp	HP:0011603	1.98E-03	2	Congenital malformation of the great arteries
hp	HP:0002438	1.95E-03	2	Cerebellar malformation
hp	HP:0011282	1.88E-03	4	Abnormality of hindbrain morphology
hp	HP:0011283	1.88E-03	4	Abnormality of the metencephalon
hp	HP:0001317	1.87E-03	4	Abnormality of the cerebellum
hp	HP:0000280	1.83E-03	2	Coarse facial features
hp	HP:0001643	1.80E-03	2	Patent ductus arteriosus
hp	HP:0002538	1.68E-03	2	Abnormality of the cerebral cortex
hp	HP:0000504	1.58E-03	4	Abnormality of vision
hp	HP:0002536	1.42E-03	2	Abnormal cortical gyration
hp	HP:0100729	1.37E-03	2	Large face
hp	HP:0011804	1.36E-03	6	Abnormality of muscle physiology
hp	HP:0002334	1.34E-03	2	Abnormality of the cerebellar vermis
hp	HP:0006817	1.18E-03	2	Aplasia/Hypoplasia of the cerebellar vermis
hp	HP:0007663	1.13E-03	2	Reduced visual acuity
ke	KEGG:04080	1.08E-03	2	Neuroactive ligand-receptor interaction
hp	HP:0000276	1.06E-03	2	Long face
hp	HP:0001320	1.04E-03	2	Cerebellar vermis hypoplasia
hp	HP:0004298	1.00E-03	3	Abnormality of the abdominal wall
hp	HP:0002921	1.00E-03	3	Abnormality of the cerebrospinal fluid
hp	HP:0010576	9.65E-04	2	Intracranial cystic lesion
hp	HP:0100790	9.00E-04	3	Hernia
hp	HP:0002693	8.97E-04	2	Abnormality of the skull base
hp	HP:0002683	8.21E-04	4	Abnormality of the calvaria
hp	HP:0000932	7.67E-04	2	Abnormality of the posterior cranial fossa
hp	HP:0011815	7.67E-04	2	Cephalocele
hp	HP:0002084	7.67E-04	2	Encephalocele
hp	HP:0002119	7.55E-04	3	Ventriculomegaly
hp	HP:0001999	7.54E-04	4	Abnormal facial shape
hp	HP:0002350	7.26E-04	2	Cerebellar cyst
hp	HP:0010950	7.06E-04	2	Abnormality of the fourth ventricle
hp	HP:0002198	7.06E-04	2	Dilated fourth ventricle
hp	HP:0000341	6.47E-04	2	Narrow forehead
hp	HP:0010866	6.33E-04	3	Abdominal wall defect
hp	HP:0005445	6.28E-04	2	Widened posterior fossa
hp	HP:0004299	6.16E-04	3	Hernia of the abdominal wall
hp	HP:0001305	6.09E-04	2	Dandy-Walker malformation
hp	HP:0004307	5.19E-04	2	Abnormal anatomic location of the heart
hp	HP:0001651	5.19E-04	2	Dextrocardia

hp	HP:0000572	5.19E-04	2	Visual loss
hp	HP:0000549	4.81E-04	4	Abnormal conjugate eye movement
hp	HP:0000486	4.72E-04	4	Strabismus
hp	HP:0011534	4.51E-04	2	Abnormal spatial orientation of the cardiac segments
hp	HP:0001696	4.51E-04	2	Situs inversus totalis
hp	HP:0000238	4.28E-04	3	Hydrocephalus
hp	HP:0002269	3.75E-04	3	Abnormality of neuronal migration
hp	HP:0000157	2.70E-04	3	Abnormality of the tongue
hp	HP:0002085	1.82E-05	2	Occipital encephalocele