

Protein Name	KEGG Orthology ID	PATHWAY
TSHR	K04249	ko04024 cAMP signaling pathway ko04080 Neuroactive ligand-receptor interaction ko04918 Thyroid hormone synthesis ko04923 Regulation of lipolysis in adipocytes ko05320 Autoimmune thyroid disease
CACNA1S	K04857	ko04010 MAPK signaling pathway ko04020 Calcium signaling pathway ko04022 cGMP-PKG signaling pathway ko04024 cAMP signaling pathway ko04260 Cardiac muscle contraction ko04261 Adrenergic signaling in cardiomyocytes ko04270 Vascular smooth muscle contraction ko04723 Retrograde endocannabinoid signaling ko04725 Cholinergic synapse ko04726 Serotonergic synapse ko04727 GABAergic synapse ko04911 Insulin secretion ko04912 GnRH signaling pathway ko04921 Oxytocin signaling pathway ko04924 Renin secretion ko04925 Aldosterone synthesis and secretion ko04927 Cortisol synthesis and secretion ko04929 GnRH secretion ko04934 Cushing syndrome ko04935 Growth hormone synthesis, secretion and action ko05010 Alzheimer disease ko05410 Hypertrophic cardiomyopathy (HCM) ko05412 Arrhythmogenic right ventricular cardiomyopathy (ARVC) ko05414 Dilated cardiomyopathy (DCM)
TG	K10809	ko04918 Thyroid hormone synthesis ko05320 Autoimmune thyroid disease
CTLA4	K06538	ko04514 Cell adhesion molecules (CAMs) ko04660 T cell receptor signaling pathway ko05320 Autoimmune thyroid disease ko05323 Rheumatoid arthritis
GNAS	K04632	ko01522 Endocrine resistance ko04015 Rap1 signaling pathway ko04020 Calcium signaling pathway ko04024 cAMP signaling pathway ko04072 Phospholipase D signaling pathway ko04261 Adrenergic signaling in cardiomyocytes ko04270 Vascular smooth muscle contraction ko04361 Axon regeneration ko04540 Gap junction ko04611 Platelet activation ko04713 Circadian entrainment ko04714 Thermogenesis ko04724 Glutamatergic synapse ko04726 Serotonergic synapse ko04728 Dopaminergic synapse ko04730 Long-term depression

		ko04750 Inflammatory mediator regulation of TRP channels ko04911 Insulin secretion ko04912 GnRH signaling pathway ko04913 Ovarian steroidogenesis ko04915 Estrogen signaling pathway ko04916 Melanogenesis ko04918 Thyroid hormone synthesis ko04921 Oxytocin signaling pathway ko04922 Glucagon signaling pathway ko04923 Regulation of lipolysis in adipocytes ko04924 Renin secretion ko04925 Aldosterone synthesis and secretion ko04926 Relaxin signaling pathway ko04927 Cortisol synthesis and secretion ko04928 Parathyroid hormone synthesis, secretion and action ko04934 Cushing syndrome ko04935 Growth hormone synthesis, secretion and action ko04961 Endocrine and other factor-regulated calcium reabsorption ko04962 Vasopressin-regulated water reabsorption ko04970 Salivary secretion ko04971 Gastric acid secretion ko04972 Pancreatic secretion ko04976 Bile secretion ko05030 Cocaine addiction ko05031 Amphetamine addiction ko05032 Morphine addiction ko05034 Alcoholism ko05110 Vibrio cholerae infection ko05142 Chagas disease (American trypanosomiasis) ko05146 Amoebiasis ko05163 Human cytomegalovirus infection ko05165 Human papillomavirus infection ko05200 Pathways in cancer ko05414 Dilated cardiomyopathy (DCM)
<b>LHPP</b>	K11725	ko00190 Oxidative phosphorylation
<b>THRB</b>	K08362	ko04080 Neuroactive ligand-receptor interaction ko04919 Thyroid hormone signaling pathway

Supplementary table