

# Resource Summary Report

Generated by [dkNET](#) on Sep 19, 2026

## B6.Cg-Apoe<sup>tm1Unc</sup> Tg(MSR1-TXN\*)23Arem/Mmjax

RRID:MMRRC\_037627-JAX

Type: Organism

### Proper Citation

RRID:MMRRC\_037627-JAX

### Organism Information

**URL:** [https://www.mmrrc.org/catalog/sds.php?mmrrc\\_id=37627](https://www.mmrrc.org/catalog/sds.php?mmrrc_id=37627)

**Proper Citation:** RRID:MMRRC\_037627-JAX

**Description:** Mus musculus with name B6.Cg-Apoe<sup>tm1Unc</sup> Tg(MSR1-TXN\*)23Arem/Mmjax from MMRRC.

**Species:** Mus musculus

**Notes:** Research areas: Cardiovascular, Models for Human Disease, Neurobiology;  
Mutation Type: Transgenic ; Collection:

**Phenotype:** abnormal cochlea morphology [MP:0000031]| organ of Corti degeneration [MP:0000043]| abnormal stria vascularis morphology [MP:0000048]| increased bone mineral density [MP:0000062]| decreased bone mineral density [MP:0000063]| abnormal trabecular bone morphology [MP:0000130]| abnormal vertebrae morphology [MP:0000137]| abnormal circulating cholesterol level [MP:0000180]| increased circulating LDL cholesterol level [MP:0000182]| decreased circulating HDL cholesterol level [MP:0000186]| decreased hematocrit [MP:0000208]| increased monocyte cell number [MP:0000220]| decreased monocyte cell number [MP:0000223]| hypertension [MP:0000231]| abnormal blood flow velocity [MP:0000233]| macrocytosis [MP:0000248]| abnormal blood vessel physiology [MP:0000249]| echinocytosis [MP:0000256]| abnormal heart morphology [MP:0000266]| abnormal aorta morphology [MP:0000272]| enlarged heart [MP:0000274]| altered response to myocardial infarction [MP:0000343]| decreased hair follicle number [MP:0000379]| alopecia [MP:0000414]| sparse hair [MP:0000416]| abnormal femur morphology [MP:0000559]| abnormal liver morphology [MP:0000598]| amyloidosis [MP:0000604]| abnormal liver physiology [MP:0000609]| abnormal adrenal gland morphology [MP:0000639]| abnormal immune system morphology [MP:0000685]| enlarged spleen [MP:0000691]| enlarged lymph nodes [MP:0000702]| enlarged thymus [MP:0000709]| abnormal skin condition [MP:0001191]| thick skin [MP:0001200]| skin lesions [MP:0001212]| hyperkeratosis [MP:0001242]| abnormal dermal layer morphology [MP:0001243]| thick dermal layer [MP:0001245]| mixed cellular infiltration to dermis

[MP:0001246]] decreased body length [MP:0001258]] increased body weight [MP:0001260]] obese [MP:0001261]] decreased body weight [MP:0001262]] abnormal retina morphology [MP:0001325]] dry eyes [MP:0001337]] Meibomian gland atrophy [MP:0001345]] increased anxiety-related response [MP:0001363]] abnormal stationary movement [MP:0001388]] abnormal locomotor behavior [MP:0001392]] abnormal response to new environment [MP:0001413]] decreased exploration in new environment [MP:0001417]] abnormal spatial learning [MP:0001463]] increased startle reflex [MP:0001488]] decreased startle reflex [MP:0001489]] abnormal kindling response [MP:0001499]] abnormal coat appearance [MP:0001510]] abnormal skeleton physiology [MP:0001533]] abnormal hematopoietic system physiology [MP:0001545]] abnormal lipid level [MP:0001547]] hyperlipidemia [MP:0001548]] increased circulating triglyceride level [MP:0001552]] increased circulating free fatty acid level [MP:0001554]] increased circulating HDL cholesterol level [MP:0001556]] hyperglycemia [MP:0001559]] anemia [MP:0001577]] cardiac hypertrophy [MP:0001625]] hypersecretion of corticosterone [MP:0001744]] increased circulating corticosterone level [MP:0001745]] abnormal immune system physiology [MP:0001790]] impaired macrophage phagocytosis [MP:0001798]] abnormal inflammatory response [MP:0001845]] heart inflammation [MP:0001853]] kidney inflammation [MP:0001859]] lung inflammation [MP:0001861]] vascular inflammation [MP:0001863]] abnormal lung volume [MP:0001942]] deafness [MP:0001967]] abnormal skin morphology [MP:0002060]] abnormal fear/anxiety-related behavior [MP:0002065]] increased circulating insulin level [MP:0002079]] premature death [MP:0002083]] abnormal lipid homeostasis [MP:0002118]] abnormal cardiovascular system morphology [MP:0002127]] abnormal kidney morphology [MP:0002135]] abnormal brain morphology [MP:0002152]] abnormal gland physiology [MP:0002164]] gliosis [MP:0002183]] abnormal artery morphology [MP:0002191]] neurodegeneration [MP:0002229]] abnormal pulmonary alveolus morphology [MP:0002270]] abnormal lymph node morphology [MP:0002339]] abnormal dendritic cell physiology [MP:0002376]] abnormal cell-mediated immunity [MP:0002421]] abnormal macrophage morphology [MP:0002446]] abnormal erythrocyte morphology [MP:0002447]] abnormal macrophage physiology [MP:0002451]] increased immunoglobulin level [MP:0002461]] abnormal neutrophil physiology [MP:0002463]] increased IgG level [MP:0002493]] increased IgM level [MP:0002494]] abnormal blood coagulation [MP:0002551]] hepatic steatosis [MP:0002628]] reticulocytosis [MP:0002640]] poikilocytosis [MP:0002643]] decreased circulating triglyceride level [MP:0002644]] abnormal sciatic nerve morphology [MP:0002651]] abnormal immune serum protein physiology [MP:0002723]] decreased circulating insulin level [MP:0002727]] abnormal thermal nociception [MP:0002733]] glomerulonephritis [MP:0002743]] dilated heart left ventricle [MP:0002753]] decreased vertical activity [MP:0002757]] abnormal retinal vasculature morphology [MP:0002792]] increased thigmotaxis [MP:0002797]] increased heart weight [MP:0002833]] increased systemic arterial blood pressure [MP:0002842]] decreased systemic arterial blood pressure [MP:0002843]] cochlear ganglion degeneration [MP:0002857]] increased growth rate [MP:0002865]] albuminuria [MP:0002871]] decreased hemoglobin content [MP:0002874]] increased insulin sensitivity [MP:0002891]] thick ventricular wall [MP:0002953]] increased urine protein level [MP:0002962]] increased liver weight [MP:0002981]] abnormal cytokine secretion [MP:0003009]] increased vasoconstriction [MP:0003025]] decreased myocardial infarction size [MP:0003038]] abnormal impulse conducting system conduction [MP:0003137]] cardiac fibrosis [MP:0003141]] abnormal tectorial membrane morphology [MP:0003149]] impaired muscle relaxation [MP:0003157]] increased cholesterol efflux [MP:0003192]] amyloid beta deposits [MP:0003329]] hypopituitarism [MP:0003348]] increased cardiac output [MP:0003394]] abnormal nervous system physiology [MP:0003633]] abnormal

response/metabolism to endogenous compounds [MP:0003638]] abnormal axon extension [MP:0003651]] oxidative stress [MP:0003674]] xanthoma [MP:0003692]] increased autoantibody level [MP:0003725]] decreased autoantibody level [MP:0003726]] abnormal retinal inner nuclear layer morphology [MP:0003733]] abnormal bone structure [MP:0003795]] impaired macrophage chemotaxis [MP:0003799]] vascular smooth muscle hypoplasia [MP:0003814]] enhanced coordination [MP:0003858]] abnormal myelin sheath morphology [MP:0003871]] decreased macrophage cell number [MP:0003884]] abnormal ST segment [MP:0003897]] decreased kidney weight [MP:0003918]] abnormal lymphocyte physiology [MP:0003945]] abnormal cholesterol level [MP:0003947]] abnormal circulating lipid level [MP:0003949]] increased circulating VLDL triglyceride level [MP:0003975]] increased circulating phospholipid level [MP:0003980]] increased cholesterol level [MP:0003982]] decreased cholesterol level [MP:0003983]] arteriosclerosis [MP:0003991]] aortic dissection [MP:0004044]] abnormal coronary artery morphology [MP:0004111]] abnormal aortic arch morphology [MP:0004113]] increased compact bone thickness [MP:0004148]] increased renal tubule apoptosis [MP:0004153]] abnormal basilar membrane morphology [MP:0004308]] cochlear inner hair cell degeneration [MP:0004398]] cochlear outer hair cell degeneration [MP:0004404]] abnormal spiral modiolar artery morphology [MP:0004629]] spiral modiolar artery stenosis [MP:0004630]] increased anti-double stranded DNA antibody level [MP:0004762]] abnormal synaptic vesicle morphology [MP:0004769]] increased macrophage derived foam cell number [MP:0004778]] increased anti-nuclear antigen antibody level [MP:0004794]] increased susceptibility to systemic lupus erythematosus [MP:0004801]] increased mean systemic arterial blood pressure [MP:0004875]] decreased systemic vascular resistance [MP:0004879]] abnormal vascular wound healing [MP:0004883]] decreased adiponectin level [MP:0004893]] increased uterus weight [MP:0004904]] skin inflammation [MP:0004947]] increased spleen weight [MP:0004952]] abnormal osteoblast physiology [MP:0005006]] increased B cell number [MP:0005014]] increased T cell number [MP:0005015]] decreased T cell number [MP:0005018]] increased susceptibility to parasitic infection [MP:0005027]] abnormal thrombosis [MP:0005048]] decreased acute inflammation [MP:0005087]] decreased cardiac muscle contractility [MP:0005140]] increased circulating VLDL cholesterol level [MP:0005145]] decreased circulating VLDL cholesterol level [MP:0005146]] abnormal blood-brain barrier function [MP:0005167]] increased circulating cholesterol level [MP:0005178]] decreased circulating cholesterol level [MP:0005179]] glomerulosclerosis [MP:0005264]] abnormal cholesterol homeostasis [MP:0005278]] improved glucose tolerance [MP:0005292]] impaired glucose tolerance [MP:0005293]] abnormal circulating amino acid level [MP:0005311]] increased triglyceride level [MP:0005317]] abnormal enzyme/coenzyme level [MP:0005319]] abnormal renal glomerulus morphology [MP:0005325]] insulin resistance [MP:0005331]] abnormal gonadal fat pad morphology [MP:0005335]] atherosclerotic lesions [MP:0005338]] increased susceptibility to atherosclerosis [MP:0005339]] altered susceptibility to atherosclerosis [MP:0005340]] decreased susceptibility to atherosclerosis [MP:0005341]] abnormal bile salt homeostasis [MP:0005365]] vascular stenosis [MP:0005412]] abnormal circulating protein level [MP:0005416]] increased macrophage cell number [MP:0005425]] increased susceptibility to weight gain [MP:0005455]] vascular smooth muscle hyperplasia [MP:0005489]] abnormal eye electrophysiology [MP:0005551]] increased circulating creatinine level [MP:0005553]] increased circulating glucose level [MP:0005559]] decreased circulating glucose level [MP:0005560]] abnormal enzyme/coenzyme activity [MP:0005584]] increased vasodilation [MP:0005590]] decreased vasodilation [MP:0005591]] abnormal vascular smooth muscle morphology [MP:0005592]] abnormal vascular smooth muscle physiology [MP:0005595]] decreased susceptibility to type IV

hypersensitivity reaction [MP:0005616]] decreased susceptibility to diet-induced obesity [MP:0005659]] decreased circulating leptin level [MP:0005668]] increased circulating leptin level [MP:0005669]] increased apoptosis [MP:0006042]] abnormal vascular endothelial cell morphology [MP:0006055]] decreased cerebral infarction size [MP:0006058]] increased cerebral infarction size [MP:0006060]] abnormal circulating homocysteine level [MP:0006076]] increased fat cell size [MP:0006094]] calcified artery [MP:0006133]] artery occlusion [MP:0006134]] increased systemic arterial systolic blood pressure [MP:0006144]] decreased systemic arterial systolic blood pressure [MP:0006264]] aortic aneurysm [MP:0006278]] abnormal T cell number [MP:0006387]] delayed cellular replicative senescence [MP:0008009]] impaired lipolysis [MP:0008033]] abnormal CD4-positive [MP:0008073]] alpha beta T cell number [MP:0008074]] increased CD4-positive [MP:0008075]] alpha beta T cell number [MP:0008079]] decreased CD4-positive [MP:0008090]] alpha beta T cell number [MP:0008143]] decreased CD8-positive [MP:0008174]] alpha-beta T cell number [MP:0008181]] increased T-helper 2 cell number [MP:0008182]] abnormal dendrite morphology [MP:0008217]] decreased follicular B cell number [MP:0008243]] increased marginal zone B cell number [MP:0008248]] decreased marginal zone B cell number [MP:0008288]] abnormal B cell activation [MP:0008289]] abnormal macrophage derived foam cell morphology [MP:0008389]] abnormal mononuclear phagocyte morphology [MP:0008406]] abnormal adrenal cortex morphology [MP:0008428]] abnormal adrenal medulla morphology [MP:0008511]] hypochromic macrocytic anemia [MP:0008515]] increased cellular sensitivity to hydrogen peroxide [MP:0008544]] abnormal spatial working memory [MP:0008553]] thin retinal inner nuclear layer [MP:0008561]] thin retinal outer nuclear layer [MP:0008566]] impaired olfaction [MP:0008567]] increased circulating tumor necrosis factor level [MP:0008577]] decreased tumor necrosis factor secretion [MP:0008596]] increased interferon-gamma secretion [MP:0008597]] decreased interferon-gamma secretion [MP:0008617]] increased circulating interferon-gamma level [MP:0008660]] increased circulating interleukin-6 level [MP:0008817]] decreased circulating interleukin-6 level [MP:0008916]] increased circulating interleukin-12 level [MP:0009278]] increased interleukin-10 secretion [MP:0009289]] hematoma [MP:0009346]] abnormal astrocyte physiology [MP:0009538]] abnormal bone marrow cell physiology [MP:0009763]] decreased epididymal fat pad weight [MP:0009764]] decreased trabecular bone thickness [MP:0009814]] abnormal synapse morphology [MP:0009862]] increased sensitivity to induced morbidity/mortality [MP:0009864]] decreased sensitivity to induced morbidity/mortality [MP:0009866]] increased prostaglandin level [MP:0009868]] abnormal aorta elastic tissue morphology [MP:0009873]] abnormal aorta endothelium morphology [MP:0009932]] abnormal aorta wall morphology [MP:0010210]] abnormal descending thoracic aorta morphology [MP:0010451]] abnormal aorta tunica media morphology [MP:0010483]] skin fibrosis [MP:0010574]] abnormal circulating cytokine level [MP:0010658]] kidney microaneurysm [MP:0010659]] aortic sinus aneurysm [MP:0010663]] aorta dilation [MP:0010724]] thoracic aorta aneurysm [MP:0010760]] abdominal aorta aneurysm [MP:0010868]] abnormal brachiocephalic trunk morphology [MP:0010869]] thick interventricular septum [MP:0010879]] abnormal macrophage chemotaxis [MP:0010895]] increased bone trabecula number [MP:0010922]] decreased bone trabecula number [MP:0010933]] decreased trabecular bone volume [MP:0010935]] increased lung compliance [MP:0010950]] alveolitis [MP:0011086]] decreased trabecular bone connectivity density [MP:0011231]] increased airway resistance [MP:0011294]] abnormal lung hysteresivity [MP:0011309]] postnatal lethality [MP:0011339]] incomplete penetrance [MP:0011353]] abnormal vitamin E level [MP:0011368]] renal glomerulus hypertrophy [MP:0011430]] abnormal kidney arterial blood vessel morphology [MP:0011477]] abnormal glomerular

mesangium morphology [MP:0011508]| expanded mesangial matrix [MP:0011509]| increased kidney apoptosis [MP:0011561]| mesangiolytic [MP:0011567]| abnormal urine nucleoside level [MP:0011572]| glomerular capillary thrombosis [MP:0011578]| dilated glomerular capillary [MP:0011581]| renal glomerulus lipodosis [MP:0011599]| increased renal glomerulus lobularity [MP:0011939]| abnormal aorta bulb morphology [MP:0011941]| increased lipoprotein lipase activity [MP:0011951]| increased triglyceride lipase activity [MP:0011967]| increased phosphatidylcholine-sterol O-acyltransferase activity [MP:0012307]| increased food intake [MP:0012335]| increased fluid intake [MP:0013022]| increased cardiac stroke volume [MP:0014169]| increased or absent threshold for auditory brainstem response [MP:0020253]| impaired spatial learning [MP:0020408]| increased circulating homocysteine level [MP:0020519]

**Affected Gene:** MSR1|TXN|ApoE

**Catalog Number:** 037627-JAX

**Background:** Transgenic

**Database:** Mutant Mouse Resource and Research Center (MMRRC)

**Database Abbreviation:** MMRRC

**Source References:** [PMID:22933306](https://pubmed.ncbi.nlm.nih.gov/22933306/)

**Alternate IDs:** MMRRC\_37627-JAX, MMRRC\_037627, MMRRC\_37627

**Organism Name:** B6.Cg-ApoE<sup>tm1Unc</sup> Tg(MSR1-TXN\*)23Arem/Mmjax

**Record Creation Time:** 20230308T055152+0000

**Record Last Update:** 20260912T134856+0000

---

## Ratings and Alerts

No rating or validation information has been found for B6.Cg-ApoE<sup>tm1Unc</sup> Tg(MSR1-TXN\*)23Arem/Mmjax.

**Warning:** Warning. Researchers have noted that this genotype does not sufficiently model human coronary artery disease.

---

## Data and Source Information

**Source:** [Integrated Animals](#)

**Source Database:** Mutant Mouse Resource and Research Center (MMRRC)

---

## Usage and Citation Metrics

We have not found any literature mentions for this resource.