Transgenic Mouse Genotyping

Available pre-validated assays (last updated March 2018)

UNIVERSITY OF ARIZONA GENETICS CORE

Assays in **BOLD** are found in our "Common Assay" drop down list

Regions of Interest	Assay Name	Apx. WT amplicon size	Apx. MUT amplicon size
aryl hydrocarbon receptor	**AHR**	100	140
activation-induced cytidine deaminase	AIDCre	484	283
amyloid precursor protein	Alzh	internal control	364
Apc with LoxP sites flanking Exon 14	APC	321	426
Apolipoprotein E	ApoE, ApoE-rtTA	varies	varies
tamoxifen-induced Cre recombinase under ARR2-rat probasin promoter	ARR2PB	internal control	766
Transforming Growth Factor Beta1	B1-Flox	134	261
Transforming Growth Factor Beta2	**Beta2**	132	256
Transforming Growth Factor Beta3	**Beta3**, **B3-Flox**, B3-Cre, **409Y**	varies	varies
Cre-activated BRaf mutant allele	Braf	185	306
Breast Cancer 1 - tumor suppressor gene	**BRCA1**	464	510
calcium-sensing receptor	CASR, CaSR-Flox	varies	varies
cadherin 1	Cdh1	242	334
cadherin 2	Cdh2	510	150
neuregulin	CDR	686	520
lncRNA (Gt(ROSA)26Sor) -	CHr2-tom, creTOM, tdTomato, GKP-H2B, Cas9, R26-Luc, ReaChR, ROSACreER, ROSA LacZ	varies	varies
tamoxifen-dependent Cre recombinase	**cre-ERT2**	internal control	206
Dpysl2 - neuronal development; paired with Msp I digest	Crmp2	403	74, 329
adrenergic receptor, beta2; domain 1 T286A	D1T	425	325
apical endosomal glycoprotein precursor	**DC4**	416	581
DEREG mice have DTR-eGFP expression in fully functional Foxp3+CD4+ regulatory T cell	**DeREG**	internal control	370
Generic Cre	**E11a-Cre**/MMTV-Cre/CDX2-Cre	internal control	100
estrogen receptor 1	**ESR1**	287	550
fibroblast growth factor 2	FGF	498	247
lymphocytes RFP expression	Foxp3-RFP	510	470
c-Myc and Notch1 for proteasomal degradation	Fxbw7	315	497
nuclear receptor subfamily 1, group H, member 4 - protein includes thyroid hormone receptor domain and zinc finger domains	**FXR**	internal control	182
guanine nucleotide binding protein, alpha 12	G12	441	314
guanine nucleotide binding protein, alpha 13	G13	400	470
Flourescent Proteins (Generic GFP)	GFP, GFP2	varies	varies
glutaminase	Gls-Flox	341	375
H2B2	H2B2	internal control	366
MEKK1 Mitogen activated protein kinase	HCM(R403Q)	internal control	254
Fribroblast growth factor 2	HMW(KO2), LMW	varies	varies
Interleukin 15 receptor, alpha chain	IL5RA	171	280
Interleukin 6	IL6	174	380
Cdkn2a	Ink4a/ARF	250	350
polymerase (DNA Directed), iota; paired with Tse I digest	Iota-KI	320	150, 170
kallikrein related-peptidase 6	KLK6	internal control	559
opiod receptor, kappa 1	KOR-Cre	402	620
KRAS	**KRAS2**	450	327
tetracycline-inducible beta-galactosidase	LacZ/TET-Tag	internal control	315
abolishes *Lgr5* gene function and expresses EGFP and CreERT2 fusion protein	Lgr5:CreERT2	298	174
leucine rich repeat containing G protein coupled receptor 5; targeted mutation 2	Lgr5:DTR	420	310
microtubule-associated protein tau	**MAPT**	269	170
abolished endogenous Cd79a (B-cell antigen receptor complex-associated protein alpha chain/MB-1 membrane glycoprotein) function; Cre recombinase placed under Cd79a promoter	MB1-Cre	197	230
creatine kinase, muscle	**MCK-Cre**	internal control	400
chymase 1, mast cell	Mcpt5-Cre	332	--
Fluorescent Protein (GFP/YFP)	MLCK-Unifluoro	internal control	280
loxP sites flanking exon 12 of the mutS homolog 2	Msh2	211	400
two-color fluorescent Cre reporter allele	mTmG	330	250
neomycin phosphotransferase	**Neo**	internal control	491
NFU1 iron-sulfur cluster scaffold homolog, mitochondrial; paired with BsrI digest; **rat model**	**NFU**	447	141
nitric oxide synthase 3	Nos3	337	500
neuropilin 2	Nrp2	200	350
olfactomedin 1	**OLFM1**	428	346
Transforming Growth Factor Beta	Ova	internal control	275
retinoblastoma-like 1 (p107/Rbl1)	p107 null	289	--
p53	p53-Flox, **p53-R172H**, p53-R270H	varies	varies
Pdx-1 promoter	**PDX-Cre**	internal control	650
Eif2ak3 - translation initiation factor	PERK	306	480
p110α subunit of PI3K	pik3ca	553	600, 372
Polymerase (DNA Directed), eta (Polh)	Pol-eta	1950	1400
Prolactin receptor	PRLR-Cre, PRLR-Flox	varies	varies
phosphatase and tensin homolog - tumor suppressor	Pten	156	328
parathyroid hormone	PTH	556	251
Recombination activating gene 1	Rag1 (Separated)	192	197
Recombination activating gene 2	Rag2 (GRAB)	234	195
retinoblastoma 1	Rb-Lox, Rb-KO, Bern, Jack	varies	varies
Pde6b/phosphodiesterase 6B	RD	400	510
LacZ	RosaLacZ	340	650
scn8a, N1768D mutation; paired with Hinc II digest	**Scn8a**	327	209, 118
SMAD3 and transforming growth factor Beta	SMAD3	130	210
Smad4	SMAD4	436	500
inducible Ce recombinase expression in smooth muscle cells (driven by mouse promoter from BAC clone 26630)	SMMHC-Cre	internal control	287
suppressor of cytokine signaling 3	**Socs3**	50	192
sex determining region Y (Sox18)	Sox18	128	771 or 971
singal transducer and activator of transcription 3	**Stats3**	145	185
vesicle-associated membrane protein 8	Vamp8	204	323
insertion of 9kb segment of mouse Vil1 gene drives expression of Cre recombinase fused to ligand-binding domain of human estrogen receptor	**Vil-Cre**	internal control	280
YFP in high levels in motor and sensory neurons	YFP	internal control	415
ZBTB20 - zinc finger that acts as a transcriptional repressor	Z20-Flox	300	400
ZBTB38 - zinc finger transcriptional activator that binds methylated DNA	ZBTB38	152	205