

Housekeeping Gene Primers for RT-PCR

For reverse transcript PCR

GeneName	Primer	Seq(5'-3')	Primer	Theoretical	Optimized	Product
Access No.	Name		Position	Tm	Tm	Size
Human actin beta	F305	ctgggacgacatggagaaaa	305-324	52.3		
BC002409	R868	aaggaaggctggaagagtgc	868-849	52.6	59.4	564
	F1379	agcgagcatccccaaagt	1379-1398	57.3		
	R1663	gggcacgaaggctcatcatt	1663-1644	56.3	54	285
Rat actin beta	F18	caccgcgagtacaaccttc	18-37	54.5		
NM_031144	R224	cccataccacatcacacc	224-205	54.4	60.4	207
	F694	gagagggaaatcgtgctgac	694-714	54		
	R1146	catctgtggaaggtggaca	1146-1127	53.2	57.1	452
Mouse actin beta	F91	atatcgctgcgctggtcgtc	91-110	57.5		
NM_007393	R607	aggatggcgtgagggagagc	607-588	57.8	60.4	517
	F1566	gtccctcacctccaaaag	1566-1585	54.5		
	F1831	gctgcctcaacacctcaacc	1831-1811	54.4	55.7	266
human GAPDH	F369	agaaggctgggctcatttg	369-388	55.6		
BC004109	R626	aggggccatccacagtcttc	626-607	55.1	57.5	258
	F66	aggtcggagtcaacggattg	66-86	52.5		
	R597	gtgatggatggactgtggt	597-578	52.6	57	532
Rat GAPDH	F50	cagtccagcctcgtctcat	50-69	55		
BC059110	R644	aggggccatccacagtcttc	644-625	55.1	58.3	595
	F1029	acagcaacagggtggtggac	1029-1048	54.4		
	R1280	ttgagggtgcagcgaactt	1280-1261	54.8	57.7	252
Mouse GAPDH	F306	aggccggtgctgagtatgctc	306-325	54		
M32599	R835	tgctgttcaccaccttct	835-816	54.6	58.7	530
	F49	ggtgaaggctcgggtgtaacg	49-68	55.1		
	R281	ctcgtcctggaagatggtg	281-262	54.5	56.8	233
Rat 18S rRNA	F1865	tgcggaaggatcattaacgga	1865-1886	58.6		
M11188	R2164	agtaggagaggagcagcgacc	2164-2143	59	59.3	300
human 18S rRNA	F1565	cagccaccgagattgagca	1565-1584	58.3		
M10098	R1816	tagtagcgacggcggtgtg	1816-1797	58.3	59	253
mouse 18S rRNA	F56	aggggagagcgggtaagaga	56-75	54.4		
K013364	R296	ggacaggactaggcggaaca	296-277	54	62	241

For qPCR(Real-Time PCR)

Taqman Probe

Human

H GAPDH-F: CCACTCCTCCACCTTTGAC
H GAPDH-R: ACCCTGTTGCTGTAGCCA
H GAPDH-PROBE: FAM+TTGCCCTCAACGACCACTTTGTC +TAMRA

H actin f: ACCGAGCGCGGCTACAG
H actin r: CTTAATGTCACGCACGATTTCC
H actin probe: fam+TTCACCACCACGGCCGAGC+tamra

Rat

R gapdh f: TGGAGTCTACTGGCGTCTT
R gapdh r: TGTCATATTTCTCGTGGTTCA
R gapdh probe: fam+ CTGAAGGGTGGGGCCAAAAG +tamra

rat beta actin f: AGGGAAATCGTGCGTGAC
rat beta actin r: CGCTCATTGCCGATAGTG
Rat beta actin probe: fam+CTGTGCTATGTTGCCCTAGACTTC+tamra

Mouse

Mo gapdh F: TGTGTCCGTCGTGGATCTGA
Mo gapdh R: CCTGCTTACCACCTTCTTGA
Mo gapdh Probe: fam+ CCGCCTGGAGAAACCTGCCAAGTATG+tamra

m actinf: GGCACCACACYTTCTACAATG
m actinr: GGGGTGTTGAAGGTCTCAAAC
m actinprobe: fam+ TGTGGCCCCTGAGGAGCACCC+tamra



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