

**Supplementary data file 8:** Gene data set of eutherian D-dopachrome tautomerase and macrophage migration inhibitory factor genes.

Superordinal clade	Order	Species <sup>a</sup>	Genome assembly <sup>b</sup>	Gene number	Gene	Genomic coordinates <sup>c</sup>	GenBank ID
Euarchontoglires	Primates	Human	GRCh37 (>7)	5	<i>DDT1</i>	exon 1: ch.22: 24316496-24316603 bp exon 2: ch.22: 24315957-24316132 bp exon 3: ch.22: 24313740-24313812 bp	HF564786
					<i>DDT2</i>	exon 1: ch.22: 24309103-24309210 bp exon 2: ch.22: 24309574-24309749 bp exon 3: ch.22: 24313475-24313595 bp	HF564787
					<i>DDT3</i>	exon 1: ch.22: 24373138-24373245 bp exon 2: ch.22: 24373610-24373873 bp	HF564788
					<i>DDT4</i>	exon 1: ch.3: 38557217-38557321 bp exon 2: ch.3: 38556936-38557181 bp	HF564789
					<i>MIF</i>	exon 1: ch.22: 24236662-24236769 bp exon 2: ch.22: 24236959-24237131 bp exon 3: ch.22: 24237227-24237293 bp	HF564790
		Common chimpanzee	CHIMP2.1.4 (6)	3	<i>DDT1</i>	exon 1: ch.22: 22434079-22434186 bp exon 2: ch.22: 22434550-22434725 bp exon 3: ch.22: 22436874-22436946 bp	HF564791
					<i>DDT3</i>	exon 1: ch.22: 22488817-22488924 bp exon 2: ch.22: 22489289-22489552 bp	HF564792
					<i>DDT4</i>	exon 1: ch.3: 39100637-39100741 bp exon 2: ch.3: 39100356-39100601 bp	HF564793
		Western gorilla	gorGor3.1 (2.1)	0	putative	exon 1: ch.22: 7877634-7877741 bp exon 2: ch.22: 7877095-7877270 bp exon 3: ch.22: 7874892-7874964 bp	-
					putative	exon 1: ch.3: 39630299-39630403 bp exon 2: ch.3: 39630018-39630263 bp	-
		Sumatran orangutan	P_pygmaeus_2.0.2 (6)	1	<i>DDT2</i>	exon 1: NW_002973107.1: 2712-2819 bp exon 2: NW_002973107.1: 3184-3359 bp exon 3: NW_002973107.1: 7140-7260 bp	HF564794
					putative	exon 1: ch.22: 18835908-18836015 bp exon 2: ch.22: 18836205-18836377 bp	-

					exon 3: ch.22: 18836489-18836555 bp		
	Northern white-cheeked gibbon	Nleu1.1 (5.6)	2	<i>DDT4</i>	exon 1: GL397269.1: 27011710-27011814 bp exon 2: GL397269.1: 27011429-27011674 bp	HF564795	
				<i>MIF</i>	exon 1: GL397571.1: 232324-232431 bp exon 2: GL397571.1: 232621-232793 bp exon 3: GL397571.1: 232889-232955 bp	HF564796	
	Rhesus monkey	Mmul_051212 (5.3)	0	putative	exon 1: NW_001096040.1: 297858-297965 bp exon 2: NW_001096040.1: 298155-298327 bp exon 3: NW_001096040.1: 298423-298489 bp	-	
	Hamadryas baboon	Pham_1.0 (5.3)	2	<i>DDT1</i>	exon 1: Contig385965_Contig130188: 48615-48722 bp exon 2: Contig385965_Contig130188: 48092-48267 bp exon 3: Contig385965_Contig130188: 45840-45912 bp	HF564797	
				<i>MIF</i>	exon 1: Contig562299_Contig129652: 43938-44045 bp exon 2: Contig562299_Contig129652: 43575-43748 bp exon 3: Contig562299_Contig129652: 43399-43465 bp	HF564798	
	Common marmoset	C_jacchus3.2.1 (6.6)	1	<i>DDT1</i>	exon 1: ch.1: 187585831-187585938 bp exon 2: ch.1: 187585294-187585469 bp exon 3: ch.1: 187583134-187583206 bp	HF564799	
	Philippine tarsier	tarSyr1.0 (1.82)	0	putative	exon 1: scaffold_130591: 2825-2932 bp exon 2: scaffold_130591: 2310-2485 bp exon 3: scaffold_130591: 382-454 bp	-	
	Northern greater galago	otoGar3 (3.89)	1	<i>MIF</i>	exon 1: AAQR03184673.1: 6147-6254 bp exon 2: AAQR03184673.1: 6451-6623 bp exon 3: AAQR03184673.1: 6707-6773 bp	HF564800	
				putative	exon 1: AAQR03184689.1: 10440-10547 bp exon 2: AAQR03184689.1: 10870-11045 bp exon 3: AAQR03184689.1: 12993-13065 bp	-	
	Scadentia	Northern treeshrew	tupBell (1.89)	1	<i>DDT1</i>	exon 1: scaffold_8737: 3969-4076 bp exon 2: scaffold_8737: 3464-3639 bp exon 3: scaffold_8737: 956-1028 bp	HF564801
	Rodentia	Mouse	GRCm38 (>7)	2	<i>Ddt</i>	exon 1: ch.10: 75773216-75773323 bp exon 2: ch.10: 75772738-75772913 bp exon 3: ch.10: 75771434-75771506 bp	HF564802
				<i>Mif</i>	exon 1: ch.10: 75860061-75860168 bp exon 2: ch.10: 75859687-75859859 bp	HF564803	

						exon 3: ch.10: 75859477-75859543 bp	
		Brown rat	Rnor_5.0 (>7)	2	<i>Ddt</i>	exon 1: ch.20: 16016910-16017017 bp exon 2: ch.20: 16017322-16017497 bp exon 3: ch.20: 16019056-16019128 bp	HF564804
					<i>Mif</i>	exon 1: ch.20: 15885332-15885439 bp exon 2: ch.20: 15885632-15885804 bp exon 3: ch.20: 15885927-15885993 bp	HF564805
		Ord's kangaroo rat	dipOrd1 (1.85)	0	putative	exon 1: scaffold_1047: 15358-15465 bp exon 2: scaffold_1047: 14881-15056 bp exon 3: scaffold_1047: 12195-12267 bp	-
		Domesticated guinea pig	cavPor3 (6.76)	0	putative	exon 1: scaffold_4: 8291720-8291827 bp exon 2: scaffold_4: 8291997-8292169 bp exon 3: scaffold_4: 8292301-8292367 bp	-
		Thirteen-lined ground squirrel	speTri1 (1.9)	0	putative	exon 1: JH393429.1: 1044856-1044963 bp exon 2: JH393429.1: 1044345-1044520 bp exon 3: JH393429.1: 1043188-1043260 bp	-
	Lagomorpha	European rabbit	oryCun2 (6.55)	0	putative	exon 1: GL018810.1: 883222-883329 bp exon 2: GL018810.1: 882793-882968 bp exon 3: GL018810.1: 881759-881831 bp	-
Laurasiatheria	Artiodactyla	Domestic cattle	Btau_4.6.1 (>7)	2	<i>DDT</i>	exon 1: ch.17: 74396707-74396814 bp exon 2: ch.17: 74397173-74397348 bp exon 3: ch.17: 74399112-74399184 bp	HF564806
					<i>MIF</i>	exon 1: ch.17: 74353811-74353918 bp exon 2: ch.17: 74354058-74354230 bp exon 3: ch.17: 74354313-74354380 bp	HF564807
		Wild boar	Sscrofa10.2 (4)	0	putative	exon 1: ch.14: 53235266-53235373 bp exon 2: ch.14: 53234792-53234967 bp exon 3: ch.14: 53233178-53233250 bp	-
					putative	exon 1: ch.14: 53283160-53283267 bp exon 2: ch.14: 53282820-53282992 bp exon 3: ch.14: 53282671-53282737 bp	-
		Vicugna	vicPac1.0 (2.51)	0	putative	exon 1: TI2045130565: 214-321 bp exon 2: TI2045130565: 468-640 bp exon 3: TI2045130565: 722-788 bp	-
	Perissodactyla	Horse	EquCab2 (6.79)	1	<i>MIF</i>	exon 1: ch.8: 1557344-1557451 bp	HF564808

						exon 2: ch.8: 1557014-1557186 bp exon 3: ch.8: 1556854-1556920 bp	
					putative	exon 1: ch.8: 1479182-1479289 bp exon 2: ch.8: 1478657-1478832 bp exon 3: ch.8: 1477169-1477241 bp	-
	Carnivora	Domestic dog	CanFam3.1 (>7)	0	putative	exon 1: ch.26: 28522347-28522454 bp exon 2: ch.26: 28521929-28522104 bp exon 3: ch.26: 28520398-28520470 bp	-
		Domestic cat	Felis_catus-6.2 (2)	1	<i>DDT</i>	exon 1: ch.D3: 24858601-24858708 bp exon 2: ch.D3: 24858097-24858272 bp exon 3: ch.D3: 24856460-24856532 bp	HF564809
					putative	exon 1: ch.D3: 29230481-29230588 bp exon 2: ch.D3: 29230767-29230939 bp exon 3: ch.D3: 29231064-29231130 bp	-
	Chiroptera	Large flying fox	pteVam1 (2.63)	1	<i>MIF</i>	exon 1: GeneScaffold_3632: 101208-101315 bp exon 2: GeneScaffold_3632: 101448-101620 bp exon 3: GeneScaffold_3632: 101704-101770 bp	HF564810
	Eulipotyphla	West European hedgehog	eriEur1 (1.86)	1	<i>DDT</i>	exon 1: GeneScaffold_1299: 23435-23542 bp exon 2: GeneScaffold_1299: 23830-24005 bp exon 3: GeneScaffold_1299: 25249-25321 bp	HF564811
		Common shrew	sorAra1 (1.92)	0	putative	exon 1: GeneScaffold_1025: 41451-41558 bp exon 2: GeneScaffold_1025: 41914-42089 bp exon 3: GeneScaffold_1025: 44651-44723 bp	-
Xenarthra	Xenarthra	Nine-banded armadillo	dasNov3.0 (6)	1	<i>DDT</i>	exon 1: JH569570.1: 244503-244610 bp exon 2: JH569570.1: 243879-244054 bp exon 3: JH569570.1: 242414-242486 bp	HF564812
					putative	exon 1: JH569570.1: 375776-375883 bp exon 2: JH569570.1: 375429-375601 bp exon 3: JH569570.1: 375266-375332 bp	-
Afrotheria	Tenrecidae	Lesser hedgehog tenrec	echTell1 (1.9)	1	<i>MIF</i>	exon 1: scaffold_253136: 540-647 bp exon 2: scaffold_253136: 194-366 bp exon 3: scaffold_253136: 38-109 bp	HF564813
					putative	exon 1: scaffold_234745: 876-983 bp exon 2: scaffold_234745: 1117-1292 bp exon 3: scaffold_234745: 3219-3291 bp	-

	Proboscidea	African bush elephant	loxAfr3 (6.77)	1	<i>DDT</i>	exon 1: GL010095.1: 803127-803234 bp exon 2: GL010095.1: 803495-803670 bp exon 3: GL010095.1: 805236-805308 bp	HF564814
	Hyracoidea	Rock hyrax	proCap1 (2.19)	1	<i>MIF</i>	exon 1: scaffold_86812: 701-808 bp exon 2: scaffold_86812: 370-542 bp exon 3: scaffold_86812: 213-279 bp	HF564815

<sup>a</sup>, the common names of 35 eutherian species were provided according to Wilson and Reeder (2005); <sup>b</sup>, genomic sequence redundancy was given in brackets; <sup>c</sup>, translated exons; ch., chromosome.