

Appendix 1. Notes for the annotation of the type I IFN genes in Eca2.0

Order	Gene annotation	Suggested name	NW_001867394.1 Reference Sequence Original annotation	Reference Sequence New annotation	Length	Locus	mRNA Reference Assembly	Notes
<u>EquCab2.0 — Equus caballus breed thoroughbred chromosome 23 genomic scaffold NW_001867394</u>								
1	nu pseudo	IFNNP	n/a	40074597..40075182,complement	586	n/a		
2	beta	IFNB1	40099096..40099656,complement	40099096..40099656,complement	561	LOC100147174	XM_001917573.1	1
3	mu	IFNM1	40117735..40118292,complement	40117735..40118292,complement	558	LOC100064612	XM_001495466.2	
4	omega	IFNW1	40119577..40122215	40121629..40122215	587	LOC100064646		2, 3
5	omega	IFNW2	40152950..40153537,complement	40152950..40153537,complement	588	IFN-OMEGA2	NM_001114536.1	
6	omega pseudo	IFNWP3	n/a	40162981..40163571,complement	591	n/a		
7	alpha	IFNA1	40167843..40168397,complement	40167843..40168397,complement	555	IFN-ALPHA2	NM_001114537.1	
8	omega	IFNW4	40177599..40178186,complement	40177599..40178186,complement	588	LOC100629859	XM_003363959.1	
9	omega pseudo	IFNWP5	40187425..40189448,complement	40187380..40187946,complement	567	LOC100629844		4
10	alpha	IFNA2	40194470..40195024,complement	40194470..40195024,complement	555	LOC100052921	NM_001114538.1	
11	delta	IFND1	40202736..40203239,complement	40202736..40203239,complement	504	LOC100629885	XM_003363960.1	
12	omega	IFNW6	40240969..40241556	40240969..40241556	588	LOC100052971	XM_001497454.1	
13	delta pseudo	IFNDP2	40242661..40245015	40244519..40245015	497	LOC100629867		5
14	alpha	IFNA3	40250915..40251507	40250929..40251483	555	LOC100629951	XM_003363961.1	6
15	omega pseudo	IFNWP7	n/a	40254018..40254568	551	n/a		
16	omega	IFNW8	40283225..40283812	40283225..40283812	588	LOC100053069	XM_001497499.1	
17	delta	IFND3	40302973..40303721	40303189..40303692	504	IFND1	NM_001143795.1	7
18	alpha	IFNA4	40310846..40311414	40310846..40311400	555	LOC100053110		8
19	delta	IFND4	40338185..40338828	40338316..40338828	513	IFND2	NM_001143796.1	9
20	alpha	IFNA5	40343979..40344533	40343979..40344533	555	IFNA1	NM_001099441.1	
21	omega pseudo	IFNWP9	40348157..40348565	40348098..40348656	559	LOC100629915		10
22	alpha	IFNA6	40352208..40352776	40352208..40352762	555	LOC100053210		11
23	omega	IFNW10	40364703..40365290	40364703..40365290	588	LOC100053263	XM_001497725.1	
24	epsilon	IFNE	40388377..40389005,complement	40388424..40389005,complement	582	LOC100065067		12
25	kappa	IFNK	45255309..45255935	45255309..45255935	627	LOC100067055	XM_001497183.1	

NW_001868480.1 Equus caballus breed thoroughbred unplaced genomic scaffold

1	beta	IFNB2	3441..4001,complement	3441..4001,complement	561	IFNB1	NM_001099440.1	
2	mu	IFNM2	24208..24765,complement	24208..24765,complement	558	LOC100064468	XM_001495370.2	
3	omega	IFNW11	27968..28555	27968..28555	588	IFN-OMEGA1	NM_001083595.1	13
4	beta	IFNB3	50626..63342,complement	50626..51186,complement	561	LOC100052658	XM_001496900.2	14
5	mu	IFNM3	69398..69955,complement	69398..69955,complement	558	LOC100064551	XM_001916512.2	
6	omega	IFNW12	71734..73877	73291..73877	587	LOC100064579		2, 15
7	beta	IFNB4	88573..89133,complement	88573..89133,complement	561	LOC100052708	XM_001496994.1	

Notes

- 1: does not match any Beta from Eca1.1
- 2: these are far too highly conserved to be pseudogenes, and may therefore be coding genes with 2 sequencing errors
- 3: original has extra 2052 at start; has wrong start codon (ACG, as also in Eca1.1); in version Eca1.1 there was an extra A (position 224)
which is needed to maintain the reading frame
- 4: original has extra 1502 at start, and is missing 45 at end
- 5: original has extra 1858 at start
- 6: original has extra 14 at start and 24 extra nt at end
- 7: original has extra 216 nt at start and 29 nt at the end
- 8: original has 14 extra nt at end
- 9: original has extra 131 nt at start
- 10: original is missing 59 nt at start, and is missing 91 at end
- 11: original has 14 extra nt at end
- 12: original has extra 47 nt at end
- 13: differs strongly from most other Omega sequences; the final 70% of the amino acids match extremely well, but the first 30% less well
- 14: original has extra 12156 nt at start
- 15: original has extra 1557 at start; has wrong start codon (ACG); in version Eca1.1 there was an extra A (position 224)
which is needed to maintain the reading frame

n/a not applicable