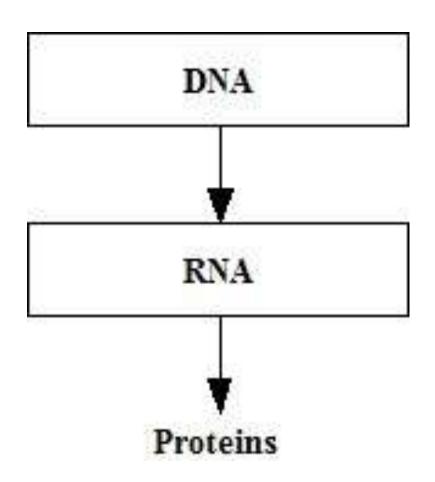
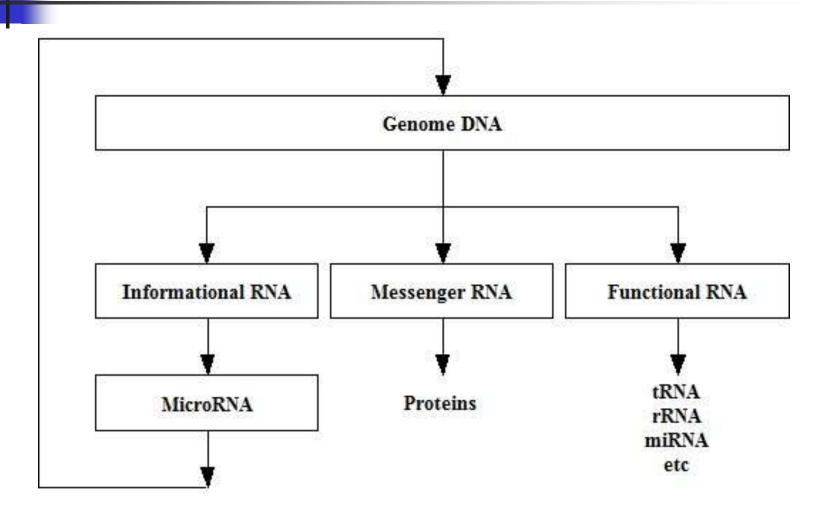


The Central Dogma



The RNA Dogma



IncRNA Databases

	Fasta	Total	Trimmed	Unique
Database	File(KB)	IncRNA	File(KB)	IncRNA
GRCh38_ncrna	77,569	57,624	63,024	54,941
LNCipedia	196,560	127,802	189,767	126,876
NONCODE	284,922	172,216	271,345	170,767
GRCh38_cdna	361,405	189,154	297,453	177,455
Incbook	400,768	268,848	400,505	268,638

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			S =
1	A >ENST00000229465.10	B C D E F G H I J K L M N O P Q R TITTGGAGATAAAAATGACAAAAGGAGAACCTCAGTTTAGCTTTAGCCATCTCTCTGACCTCAGTGCTGCTGGACTCAAGATCTAACTGTCAAATGCTTTAGGGGAAACGGGA	_
2		CCCCTATGGTTTATAACCCCTGAGTCTGGGGGTAATGGCACGGGGACCCACCAGCTTGTCTGCCGCCATCTGGGGTACAGTGCTGGAAGCGGGGACAAATAAGACACAGATCCTGTTCCTAAAGAG	
3		GATGCCTGATCTCATCAATCTAGCGGGAGAGACAGGATAACCTGTCCGAGAGTATAGCGCCACTATGACTCCGCCGGAAAAATTACTTTAAAAATTACTTTGGAGCAAAAGGGCAGTCGGCGGAG	
4		CTCAGCTCCTTTTCAGTAATTTCAGTTCTATTTTCTTACATTCATT	
5		GCCTTGGCTGGCCATGTGCACCTCATTCCATGCCATTCCAACAGTTGCTGTGCTCCCAGGCTTATATAAGAAGAACCAGTTTTCCCACTTCATGATTTTGCAGCTTAATGGGATGGAT	
6		AGGGGGAGGTGGGGCCCCACTGGATGTGCCAGGGACCAGGACCAGGCCACGCTGGGCCAGAGCTGTCATGGTTCAGGCCTTGCACACAGAACCACAGAACATGCTCAACAAGCCCCCTAAGCTTAGGG	
7	>ENST00000248980.9	GGGAGTTTCTGGTTTTGCATGAAGCAGCAGAACATGATGAAGCATTTTTCCCCCCATCTAAAGATCCAGTCGTGCTCCAGTTTGCAGAGGGCAAGGGGCTGGTTGCAGGTGGTGCTGGGAGGATGGAGTAGAGAT	GGGGTT
8	>ENST00000250805.5	TGTCTGTCAGAGCTGTCAGCCTGCTTAAGCAGAGTAAAATGGTACAGGCAGTGCAGCCTGGTAGCGAGAAAAAAGGCTGCCTGTGAAATCCCACTGTGGGACCATAAGTGGGGACCTCAGGGCCCCTTCATGGC	CATCTCC.
9	>ENST00000253848.3	GATCATGAGACTATCCTGTGTATCCCACAAAGAAGACAGGCAAGATTCCTTGGCTGATGCACCTCCACAGAGGTCTCCTTCTCAGCCAAGCCTCAGGGAATTGTGGCATTCATGCTGTACCCGTGATCTGTTCCCA	CTGGAG
10	>ENST00000255183.8	AGGAGGAGGTCCTCTGAGCCCTGAGGCAGAGATCTCTCACCTGGAAGATGGGTCTAATGACTGCGCCCCACACACA	GCATCAT
11	>ENST00000262354.5	CTGTGCTGGATGCTTCCTGCCTTTAAACATCAGACCCCAGGTTCTTTGTCCTTTGCACTCTTTGAACTTACACCAGCGGTTTGCAAGGGGCTCTTGGGCCCACAGACTGAAGGCTGCACTGACCATTTTCCT	ACTITTG
12	>ENST00000276770.8	GAGCAGTGTCCTCACGCATTGGACTGGCCTCCAATGGGTGTAGTTACAGGGCCCCAACCACCTTTCACCAGATTGTATACTCACCTGTATCTGACCTTATTGCTACTCACACTCTAGGTCCCAGGATAAAATCCCAA	ACATGAT
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15	>ENST00000289890.7	AGTGTTGGATAAATGGGATCATGCAGCATGCAAGATTTTGAAACTGCCGGCCAGACGCGATGGCTCACGCCTGTAATCCCAGCACTTTGGGAGGCTGAGACAGGCGGATCACGAGGACTAAAGGACCACACAA	GAATTC
16	>ENST00000290239.7	GGAGTTGCCAGGGCTGCCTTTGGTGACAGCAGCAGCAGCAGCAGCCTGCGGTAACAGTA	
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21	>ENST00000295052.3	GCAATTAATGCTGAAACACAGCTAGCATACATAGCAATAACTTAGGCAAAAAAGGCAACACTCAAGCAAAATCCTTCCT	AACAGC
	2 >ENST00000295549.9	GCGAGCCACGGGCCTCGCTGCGGGTTCAAGTGCGTCCGGGTTTGGACGTCGCGGCTCCAGGAGTTGCCTCTCTCT	
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1	0	>ENST00000229465.10	1655																	
2	0	528	512	TTTGGAG	ATAAAAA	TGACAAAG	GAGAACC	TCCTGAAC	AGCATCC	AGTTTGCTT	TTAGCTTTA	GCCATCTC	CTCTGACCT	CAGTGCT	GCTGGACT	CAGTTCCA	AGATCTAA	CTGTCAAA	TGCTTTAG	GGGA.
3	528	136	35	CATTGAC	CAGGCTGG	STCTTGAAC	TTCTGACC	TCAG												
4	664	91	90	ACAGCAA	AAAGAAAC	TACCATCA	GAGTGAA	CAGGCAAC	CCTACAGA	ATGGGAGA	AAAATTTT	GCAATCTA	ACTCATCTG	ACAAAGG	GCTAATA					
5	755	209	203	CCAGAAT	CTACAAA	GAACTCAAA	CAAATTT	ACAAGAA	AAAACAA	ACAACCCC	ATCAAAAA	GTGGGCA	AAGGATA1	rgaacaga	CACTTCTC	AAAAGAA	GACATTTA	TGCAGCCA	ACAGACA	.CATGA
6	964	70	69	TCATTAA	AAAGTCAG	GAAACAA	CAGGTGCT	TGGAGAGG	ATGTGGA	GAAATAGG	SAACACTTT	TACACTAT	Т							
7	1034	1474	1442	GTGGGAC	TGTAAACT	TGGTTCAAC	CATTGTG	GAAGACAG	TGTGGCG	ATTCCTCA	AGGATCCA	GAACTAGA	AATACCA	TTTGACCC	AGCCATCC	CATTACTG	GGTATATA	CCCAAAG	GATTATAA	ATCAT
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11	3918	>ENST00000242109.5	4283																	
12	4342	101	20	TGACCAA	AGTCAAA	TGCTGG														
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14	4705	364	20	TTAACCT	CTCTGAAC	CTCAG														
15	5069	982	20	ACACACA	CACAAAC	ACACAC														
16	6051	645	24	ттттст	птеттте	ППСПП														
17	6696	158	157	GACTAGT	1111111111	ППППААТ	GGAGTCTC	CATTCTGTC	ACCCAGG	CTGGAGTG	CAGTGGCG	TGATCTCG	GTTCACTO	CAACCTC	TGCCACCC	ATGTTCAA	GCGATTCT	CCTGCCTC	AGCCCCCT	GAGTA
18	6854	1882			CTAATTTT	TGTATTTT/	GTAGAGA	ATGGGGTTT	CACCATO	TTGGCCAG	GCTGGTCTT	GAACTCC	TGACCTTG	TGGTCCAC	CCGCCTCG	GCCTCCCA	AAATCCTG	GGATTAC	ATGCATGA	GCCAC
19	8201	>ENST00000244820.2	2231																	
20	8736	56	21	TGAAGAT	TATGGGAA	TTCAGAA														
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22	9210	705				ACACACACA	CACACAC	CACACACCA	ACT											
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230	106997	897	23	CTCCGCT	rgaggttt	TTCAGGC														
231	107894	185	47	AAAAATA	GTACTAG1	TAACTGTG	AAAATTGG	CAATTAAT	AGGGCAG	AT										
232	108079	95	31	тттс	GAGACAG	GTCTCATT	CTGTCAC													
233	108174	27	26	ATCCTCCT	rgcctcag.	ACTCCTGAG	TA													
234	108201	66	41	CTGGGAC	CACAGGT	TGCATCAC	CACACCCA	AGCTAATT	TCT											
235	108267	63	59	TTGCGAT	GTTGCCCA	GGCTGGTCT	CAAACTC	CTGGGCTC	AAGTGAT	CTGCCTGC	CTTGG									
236	108330	260	44	TCAAAGT	GTTGGGAT	CACAGGCG	TGAGCCA	CCACATCC	AGCCTA											
237	108590	37	21	GGTATTT	STGTATCTA	AACAT														
238	108627	215	28	GGTACAG	TAAAAAT	TGGTATAA	AAGAT													
239	108842	36	23	TAATAAA	TTAACCTT	AGCTTACT														
240	108878	75	20	AAACCTT	ПААПП	AAAA														
241	108953	58	30	AAATATT	ПСТПТАТА	TCCTTATTC	TATAA													
242	109011	81	80	TTTATTT	AATTTAAT	ITTATTTAT	TTTGAGA	CAGAGTCT	CACTCTC	rcgcccag	GCTGGAGT	CAGTGGC	GTGATCTT	•						
243	109092	41	27	ACTCACT	GCAACCTC	CGCTTCCCA	GGT													
244	109133	185	76	AAAAATA	GTACTAG1	TAACTGTG	AAAATTGG	CAATTAAT	AGGGCAG	ATCAAGC	AATTCTCTTG	CCTCAGC	CTCCAGA							
245	109318	331	20	AAAAAA	AATAATAA	TAATAA														
246	109649	95	24	CTTGTACA	AAGAATGT	TCATAGCAG	ì													
247	109744	111				TATTCAGTO														
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255	112310	1107				GATTAAAT	IAAi													
256	113417	582			SAAAGAAA			CCCAT												
257	113999	799			CHITCCIC	GGGATGCT	CITICCIO	LGGGAT												
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Cells Are Forth Computers

- Pearls are repeated patterns.
- Necklaces are clusters of Pearls.
- Pearls are instructions in a cell computer.
- Necklaces are lists in a cell computer.
- Cells are Forth computers.
- God is a Forth programmer.



Questions?



Thank You!