

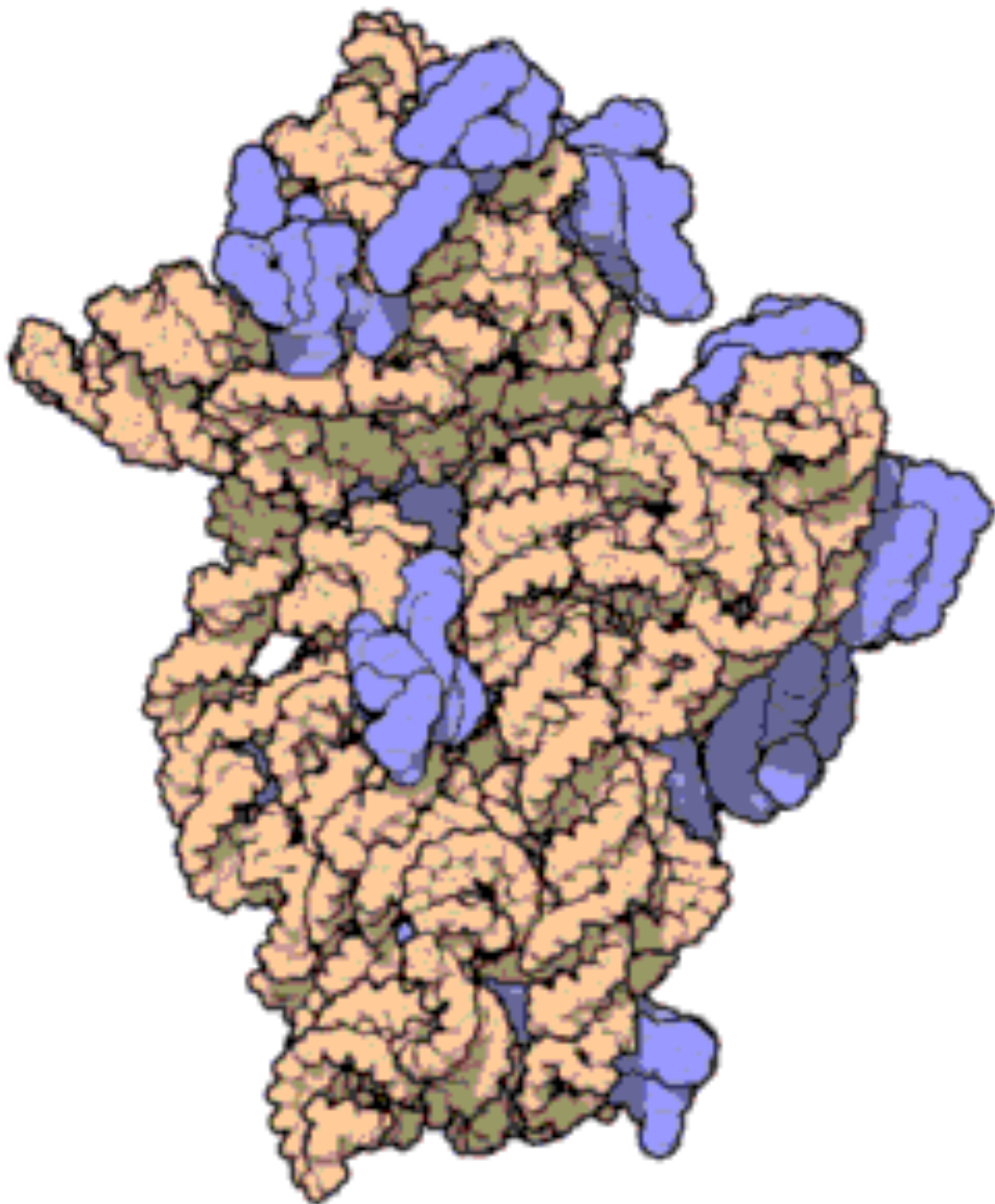


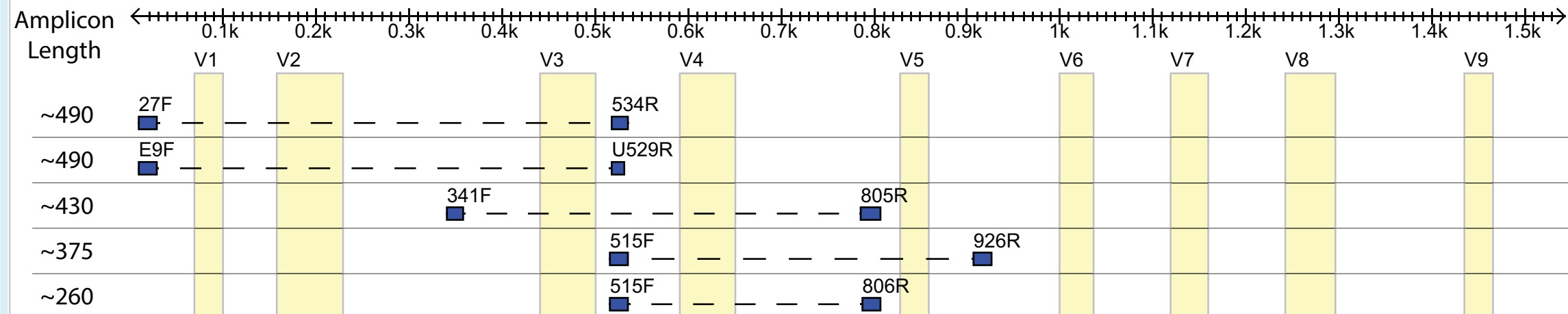
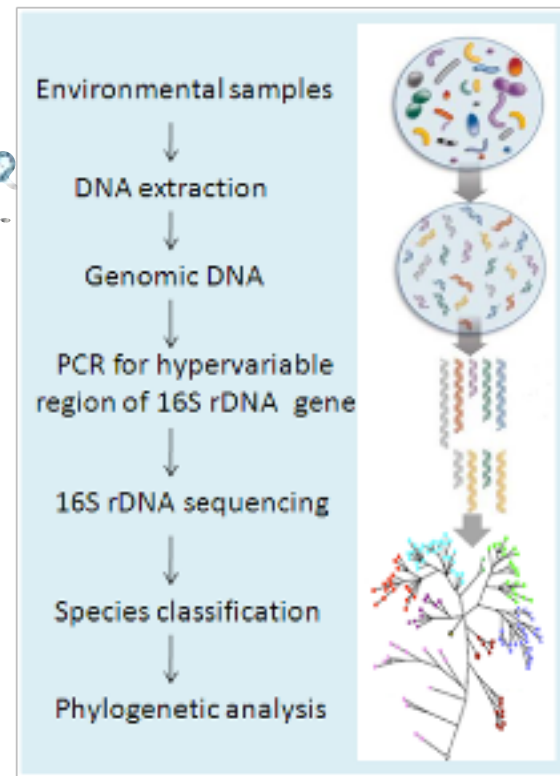
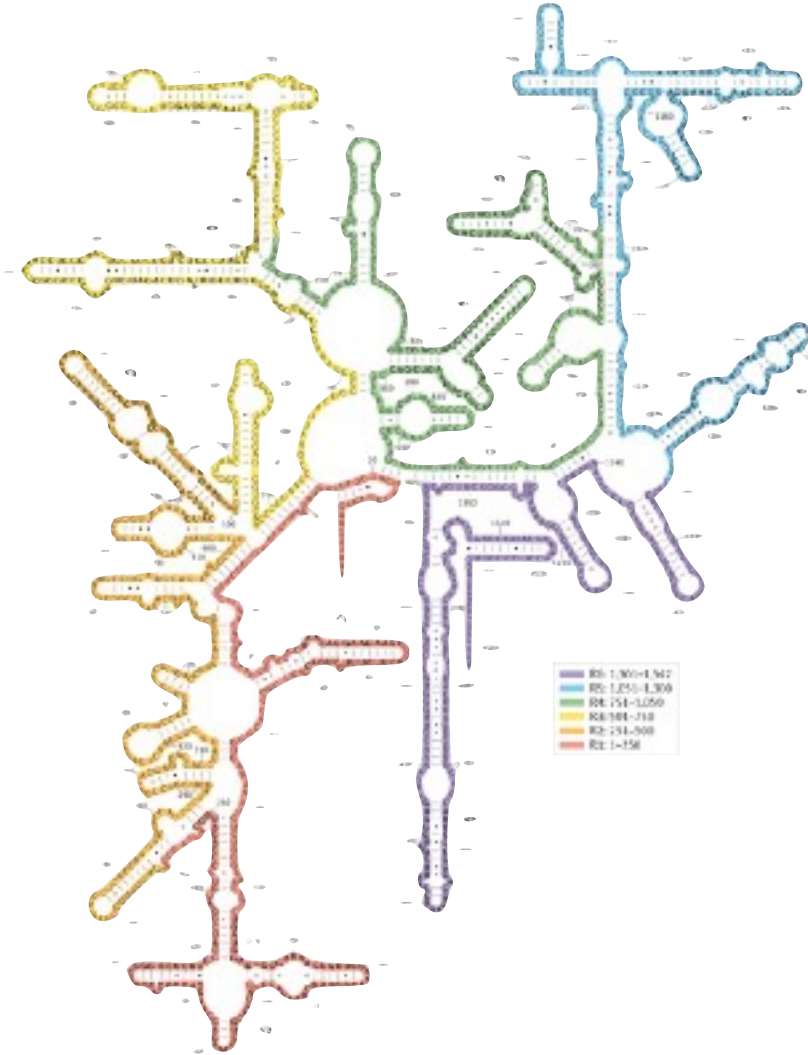
Instituto  
René Rachou  
**FIOCRUZ MINAS**

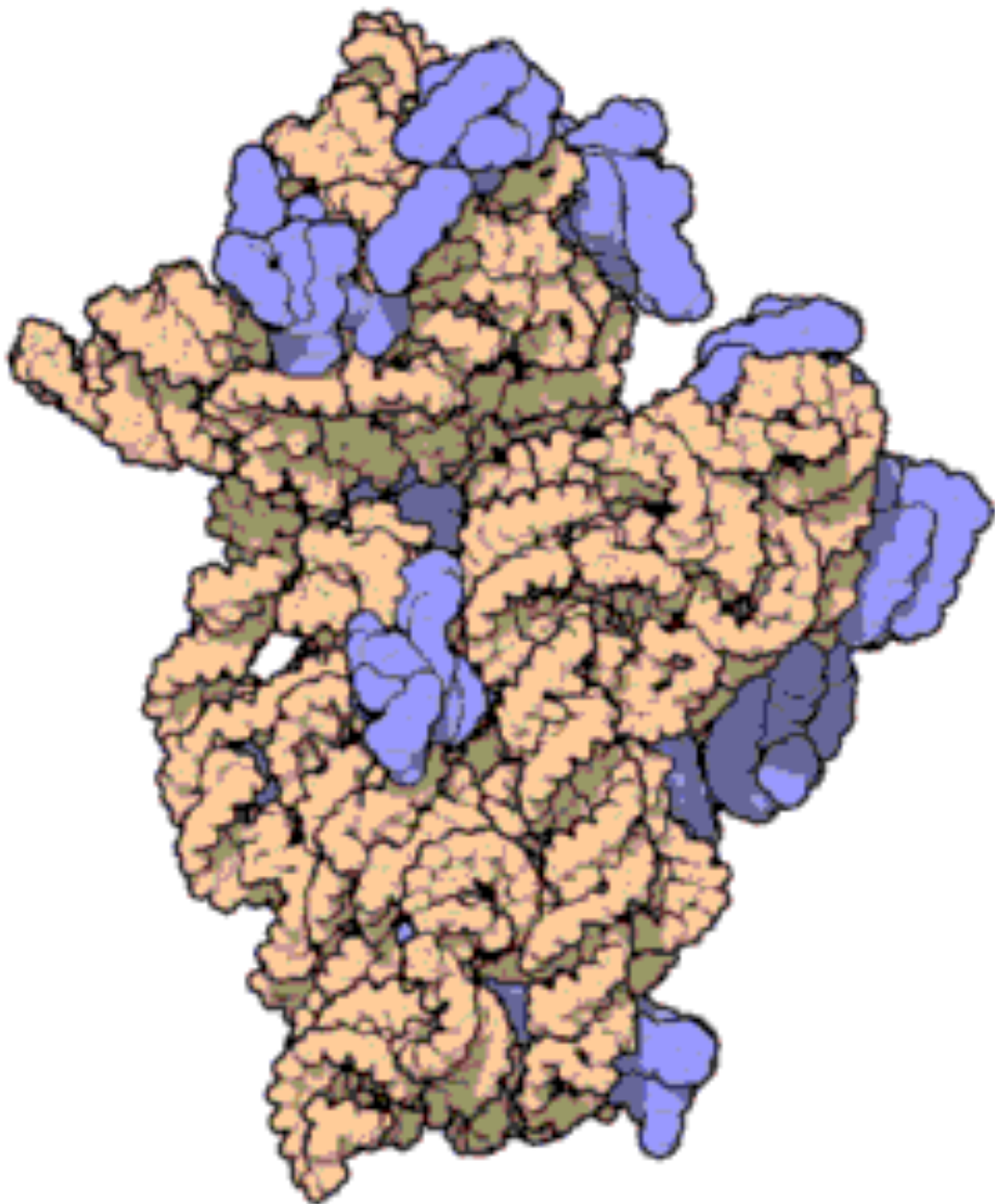


**Generations**

- Usados para classificação taxonômica
- Região conservada - primers
- Região variável - diversidade
- Exemplos: 16s rRNA, ITS, MLST
- Respostas:
  - Quantificação
  - Estrutura taxonômica
  - Diversidade



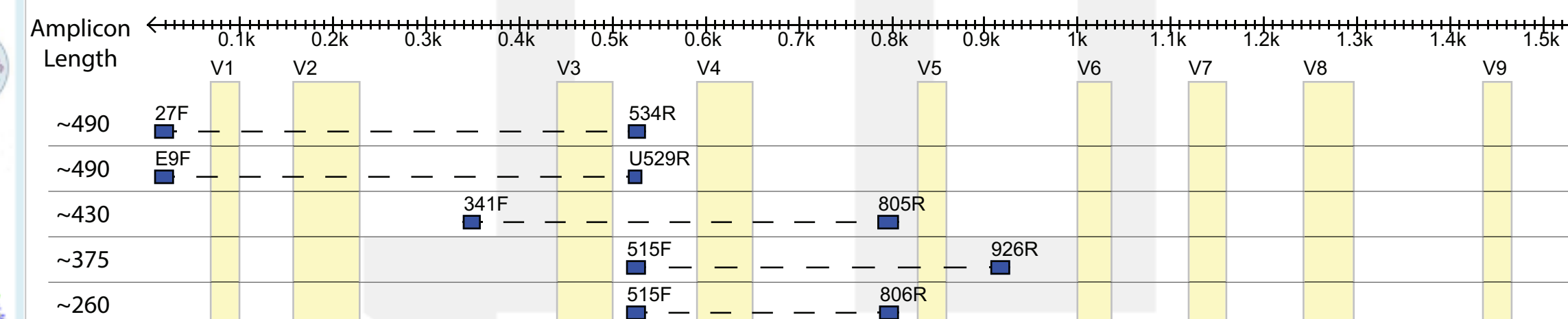
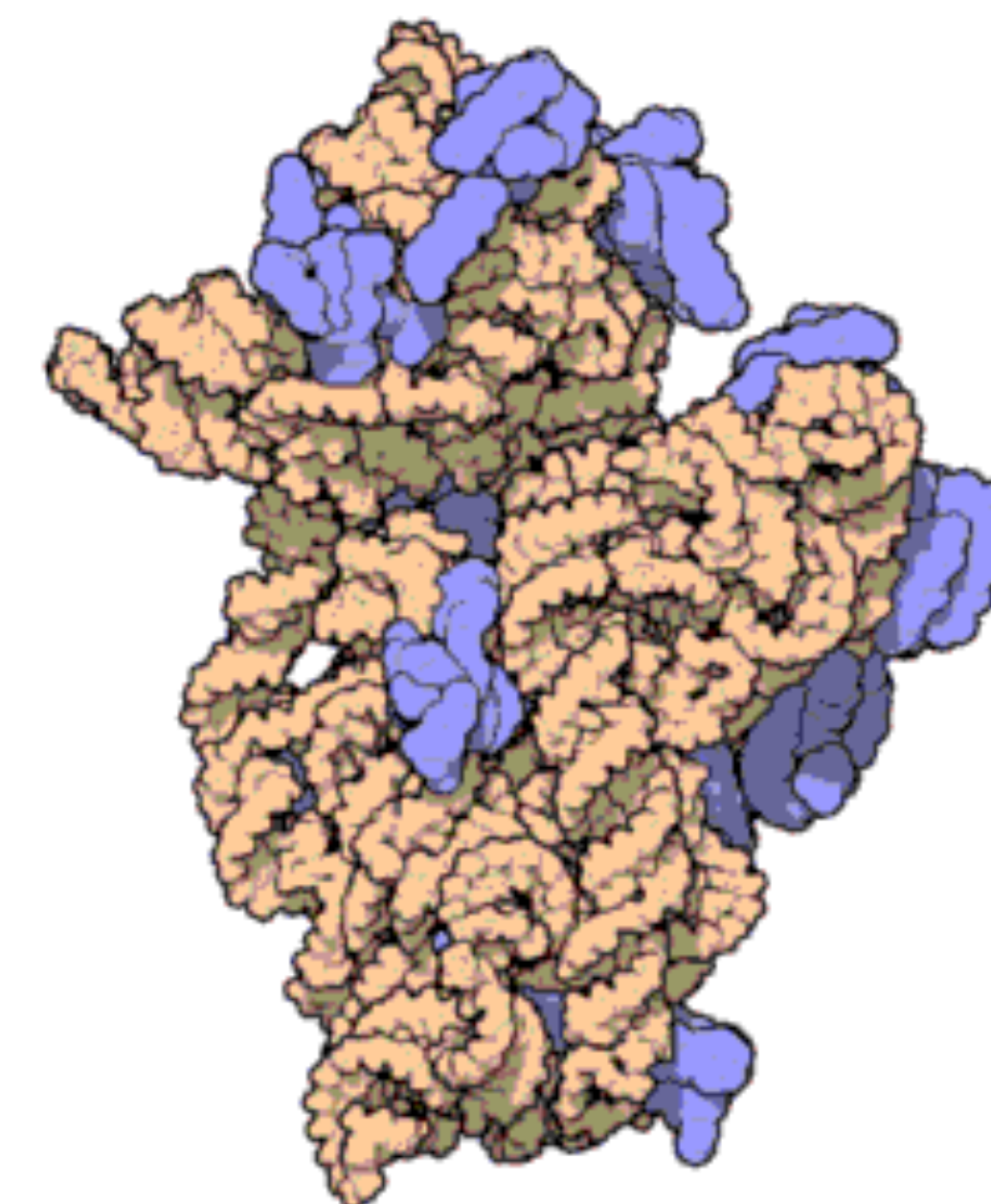
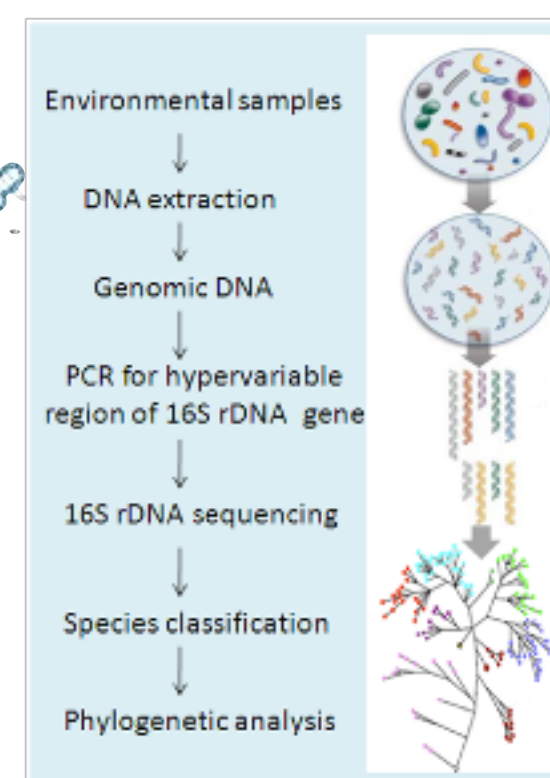
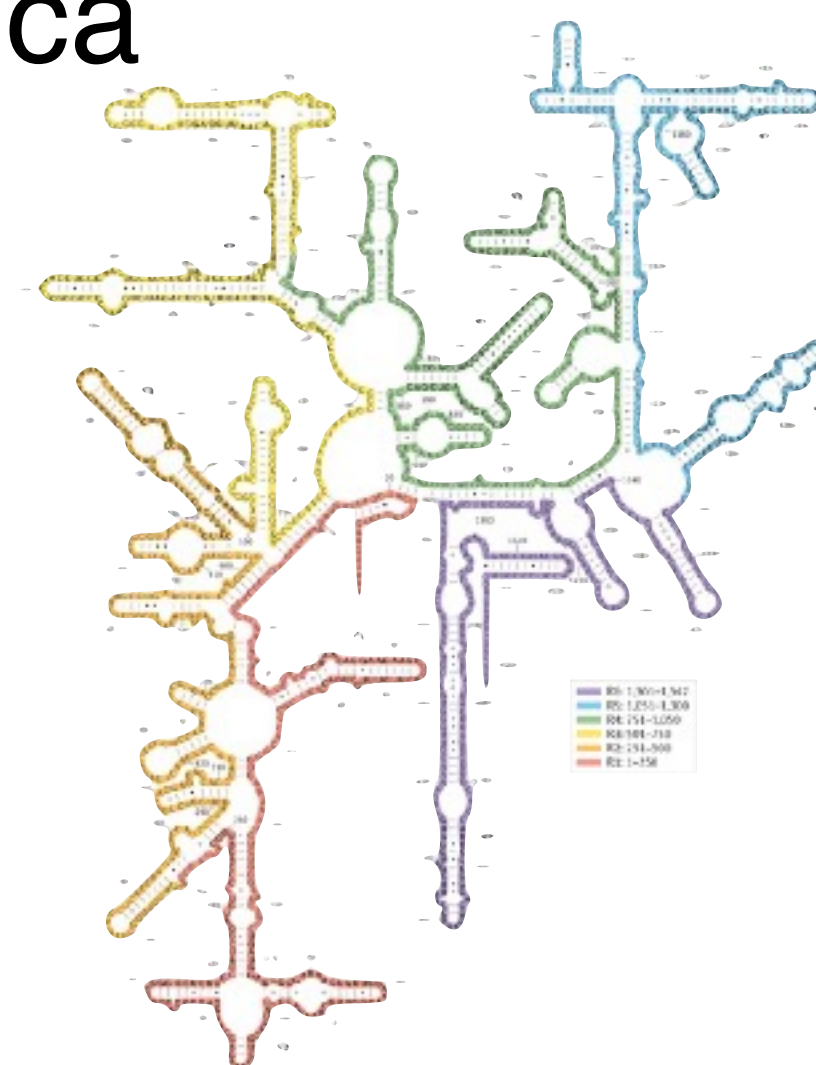






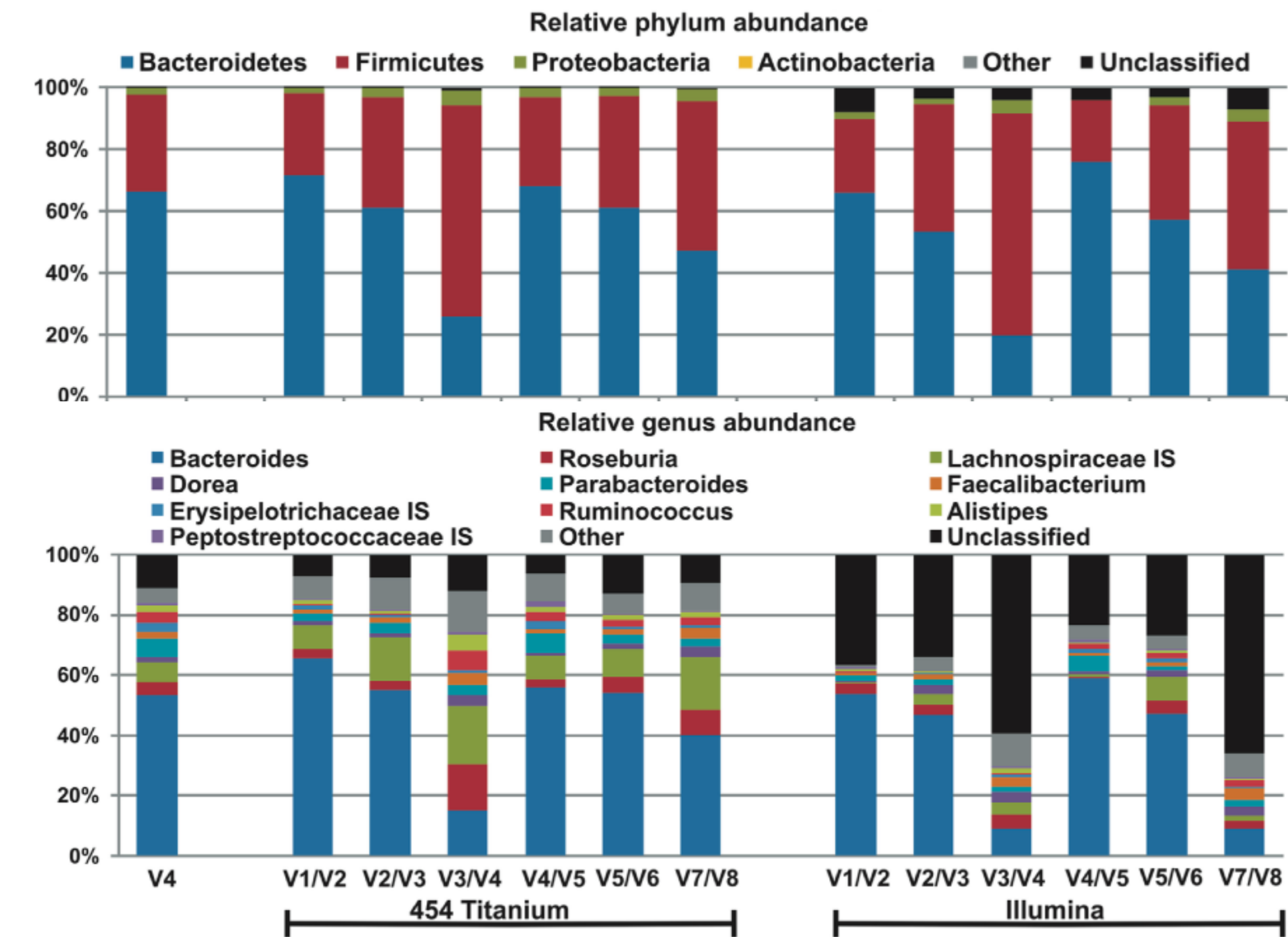
# Genes marcadores

- Usados para classificação taxonômica
- Região conservada - primers
- Região variável - diversidade
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# Qual marcador?



Published online 29 September 2010

Nucleic Acids Research, 2010, Vol. 38, No. 22 e200  
doi:10.1093/nar/gkq873

The ISME Journal (2012) 6, 1440–1444  
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www.nature.com/ismej

## Comparison of two next-generation sequencing technologies for resolving highly complex microbiota composition using tandem variable 16S rRNA gene regions

Marcus J. Claesson<sup>1,2,\*</sup>, Qiong Wang<sup>3</sup>, Orla O'Sullivan<sup>4</sup>, Rachel Greene-Diniz<sup>1</sup>, James R. Cole<sup>3</sup>, R. Paul Ross<sup>2,4</sup> and Paul W. O'Toole<sup>1,2</sup>

## SHORT COMMUNICATION

## Selection of primers for optimal taxonomic classification of environmental 16S rRNA gene sequences

David AW Soergel<sup>1</sup>, Neelendu Dey<sup>2,4,5</sup>, Rob Knight<sup>3</sup> and Steven E Brenner<sup>1</sup>

Total nucleotides	Read length	Forward primer	Reverse primer	Ocean	Coral	Hypersaline Mat	Grassland Soil	Steer Rumen	Human Gut	Dust & Skin	Termite Gut
32	single 32	(E786F end)	E826R	0	5	2	5	3	25	42	83
48				no improvement							
64	single 64	(end)	E533Ra	53	38	38	34	64	39	76	83
	pair 32	E969F	E1492R	17		24		74	90	78	
80	single 80	E341F	(E1406R E533Ra end)	63	52	58	49	60	41	66	45
	pair 48	E341F	E926Ra	68	55	50	55	81	48	73	64
	single 96	E517F U515F	(end)	48	75	61	64	83	57	65	32
	pair 48	E341F	E1064R	55	51	46	54	81	73	80	42
96	single 96	E341F	(end)	60	62	55	58	64	46	80	45
	single 96	E343F U341F	(end)	55	59	51	47	75	48	80	46
	pair 48	E517F U515F	E926Ra	52	51	56	57	65	40	70	45
	pair 48	E969F	E1492R	16		16		76	92	65	
112	single 112	E517F U515F	(end)	52	77	57	69	87	55	66	42
	single 112	(end)	E926Ra	50	56	50	62	82	42	80	40
	pair 64	E341F	E1406R	75	63	56	66	85	65	79	46
	pair 64	E517F U515F	E1406R	68	76	57	63	82	70	72	47
	single 128	E341F	(E1406R E533Ra end)	58	60	62	63	83	57	73	71
	pair 64	E517F U515F	E1407R	69	74	54	63	80	65	72	47
	pair 64	E343F	E1406R U1406R	70	62	55	54	86	66	80	46
	pair 64	E343F	E926Ra	59	60	49	57	87	68	86	42
128	single 128	E517F	(end)	47	76	58	70	85	51	62	43
	single 128	(end)	E1406R	43	68	57	72	78	42	85	44
	pair 64	U519F	E1406R	70	72	35	58	83	55	71	13
	single 128	(end)	E357R	39	53	53	53	88	51	71	42
	pair 64	E341F E343F	E1492R	39		32		78	92	82	
	pair 64	E517F U515F	E1492R	36		34		78	94	78	
	pair 80	E517F U515F	E1406R E1407R U1406R	73	76	63	74	92	82	80	45
160	pair 80	E341F	E1406R E1407R	75	64	57	73	90	80	86	46
	pair 80	E517F U515F	E926Ra	57	71	59	75	88	65	76	43
	pair 80	E517F U515F	E1492R	39		36		79	95	81	
	pair 80	E341F	E1492R	39		36		77	91	85	
192	pair 96	E517F	E1407R	74	76	59	78	93	81	80	45
	pair 96	E517F	E1406R	74	76	62	77	90	82	79	45
	pair 96	E517F	E926Ra	56	76	61	78	88	65	76	42
	pair 96	E341F	E926Ra	53	64	55	74	89	77	88	41
224	pair 112	E341F	E1406R E1407R U1406R	78	68	55	75	91	89	87	45
	pair 112	E517F	E1406R	72	79	60	77	93	84	80	43
	pair 112	E517F	E926Ra	56	77	63	77	89	63	74	42
	pair 112	U519F	E1407R	69	74	36	70	92	64	81	13
256	pair 128	E517F U515F	E1406R U1406R	69	77	61	77	93	84	79	44
	pair 128	E341F	E1406R E1407R	75	65	53	73	92	80	85	47
	pair 128	E517F U515F	E926Ra	55	76	64	74	90	62	76	43
	pair 128	U519F	E1406R	69	73	37	69	93	65	79	13
260	single 260	(end)	E1406R	41	76	54	71	91	57	86	44
	single 260	(end)	E926Ra	37	72	62	69	88	61	84	41
400				no improvement							
	pair 260	E517F U515F	E1406R	58	81	61	76	92	81	78	43
520	pair 260	E341F	E1406R E1407R	62	68	48	76	93	80	86	44
	pair 260	E341F	E926Ra	50	70	60	74	89	64	83	43
	pair 260	E341F	E1492R	36		33		80	90	89	
800	pair 400	E341F	E1406R	61	71	56	73	92	79	87	43
	pair 400	E517F U515F	E926Ra	43	78	62	72	90	67	70	42
1600				no improvement							
Maximum				78	81	64	78	93	95	89	83