## FindaGeneProject\_HeatMap

## library(bio3d) alignment <- read.fasta("FindaGene\_Alignment.fasta")</pre> head(alignment) ## \$id [1] "Pig" "Chick" ## [3] "Human" "Black\_snub\_nosed\_monkey" [5] "Chinese\_Hamster" "Rat" [7] "Mouse" ## ## \$ali ## [,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9] [,10] "A" " A " "G" "Q" "L" "R" "A" ## Pig "R" "-" 11 \_ 11 11\_11 "-" ## Chick $^{11}$ - $^{11}$ "-" ## Human "-" "-" Black\_snub\_nosed\_monkey ## Chinese\_Hamster 11\_11 "-" ## Rat ..\_.. "-" "-" "-" "-" "\_" "-" 11 \_ 11 11 \_ 11 "-" ## Mouse ## [,11][,12][,13][,14][,15][,16] [,17] [,18] [,19]## Pig "C" "S" "Q" "T" ''W'' "K" "S" "V" "R" "M" "A" "Y" "T" "W" "-" "-" "-" Chick "R" ## ייעיי "M" "K" "W" "W" Human "M" "K" ''W'' "M" "W" "-" 11\_11 "-" Black\_snub\_nosed\_monkey "M" "E" "W" ייעיי "W" Chinese\_Hamster "-" 11 \_ 11 "E" ''W'' "V" "W" 11\_11 "-" ## Rat "M" "-" "-" ## Mouse "M" "E" "W" ייעיי "W" [,23] [,25][,26][,20][,21][,22][,24][,27][,28]"M" "S" "V" "A" "T" "G" "E" "R" "R" ## Pig 11 \_ 11 "-" "-" 11 \_ 11 "-" "-" 11\_11 "-" "-" ## Chick "-" "-" "-" "-" "-" 11\_11 ## Human ## Black\_snub\_nosed\_monkey "-" "-" "-" "-" "-" **''** \_ '' "-" "-" "-" "-" "-" "-" "-" "-" ## Chinese\_Hamster **''** \_ '' $^{\prime\prime}$ \_ $^{\prime\prime}$ "-" "-" "-" "-" "-" $^{\prime\prime}$ \_ $^{\prime\prime}$ "-" ## Rat 11 \_ 11 11\_11 11\_11 11\_11 $\Pi = \Pi$ 11\_11 ## Mouse [,29] ## [,30] [,31] [,34] [,35] [,36] [,32] [,33] [,37] "P" ## Pig "K" "L" "E" "N" "K" "V" "A" "L" "-" "-" "-" "-" "-" "A" "L" ## Chick 11 \_ 11 11 \_ 11 "-" "L" "A" "A" "T." ## Black\_snub\_nosed\_monkey "-" "-" Chinese Hamster "-" "-" "-" "-" "-" "A" "L" "-" "-" "A" "T." ## Rat II \_ II 11 \_ 11 "-" 11 \_ 11 11 \_ 11 ## Mouse 11\_11 11\_11 "A" "L"

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## Black_snub_nosed_monkey
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## Chinese_Hamster
                                   "L"
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## Rat
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##	Mouse	"L" '	'Q" "I	)" "N'	' "T"	"T"	"A"	"E" '	'F"
##	nouse	[,101]	[,102]		[,104]	_	[,106]	[,107]	[,108]
	Pig	"K"	"A"	"E"	"D"	"R"	"E"	"R"	"[."
	Chick	"T"	"V"	"D"	"E"	"N"	"G"	"Q"	"M"
	Human	"S"	"V"	"D"	"E"	"T"	"G"	"Q"	"M"
	Black_snub_nosed_monkey	"S"	"V"	"D"	"E"	"T"	"G"	"Q"	"M"
	Chinese_Hamster	"S"	"V"	"D"	"E"	"K"	"G"	"H"	"M"
	Rat	"S"	"V"	"D"	- "Е"	"K"	"G"	"H"	"M"
	Mouse	"S"	"V"	"D"	"E"	"K"	"G"	"H"	"M"
##		[,109]	[,110]	[,111]	[,112]	[,113]	[,114]	[,115]	[,116]
##	Pig	"V"	"A"	"M"	"A"	"V"	"N"	"L"	"H"
	Chick	"S"	"A"	"T"	"A"	"-"	"-"	"-"	"K"
##	Human	"S"	"A"	"T"	"A"	"-"	"-"	"-"	"K"
##	Black_snub_nosed_monkey	"S"	"A"	"T"	"A"	"-"	"-"	"-"	"K"
	Chinese_Hamster	"S"	"A"	"T"	"A"	"-"	"-"	"-"	"K"
##	Rat	"S"	"A"	"T"	"A"	"-"	"-"	"-"	"K"
##	Mouse	"S"	"A"	"T"	"A"	"-"	"-"	"-"	"K"
##		[,117]	[,118]	[,119]	[,120]	[,121]	[,122]	[,123]	[,124]
##	Pig	"G"	"G"	"V"	"D"	"I"	"L"	"V"	"S"
##	Chick	"G"	"R"	"V"	"R"	"L"	"F"	"N"	"N"
##	Human	"G"	"R"	"V"	"R"	"L"	"L"	"N"	"N"
##	${\tt Black\_snub\_nosed\_monkey}$	"G"	"R"	"V"	"R"	"L"	"L"	"N"	"N"
##	Chinese_Hamster	"G"	"R"	"V"	"R"	"I"	"L"	"S"	"N"
##	Rat	"G"	"R"	"V"	"R"	"L"	"L"	"S"	"N"
##	Mouse	"G"	"R"	"V"	"R"	"L"	"L"	"S"	"N"
##		[,125]	[,126]	[,127]	[,128]	[,129]	[,130]	[,131]	[,132]
	Pig	"N"	"A"	"A"	"V"	"N"	"P"	"F"	"F"
##	Chick	''W''	"D"	"V"	"C"	"A"	"D"	"M"	"I"
	Human	"W"	"D"	"V"	"C"	"A"	"D"	"M"	"V"
	Black_snub_nosed_monkey	"W"	"D"	"V"	"C"	"A"	"D"	"M"	"V"
	Chinese_Hamster	"W"	"E"	"V"	"C"	"A"	"D"	"M"	"\"
	Rat	"W"	"E"	"V"	"C"	"A"	"D"	"M"	"V"
	Mouse	"W"	"E"	"V"	"C"	"A"	"D"	"M"	"V"
##	<b>D</b> .	[,133]	[,134]	[,135]	[,136]	[,137]	[,138]	[,139]	[,140]
	Pig	"G" "G"	"N" "S"	"I" "F"	"I" "T"	"D" "D"	"A" "T"	"T" "E"	"E" "D"
	Chick	"G"	"S" "T"	"F"	"I" "T"	ייםיי ייםיי	"I" "T"	"E"	ייםיי ייםיי
	Human	"G"	"T"	"F"	"T"	ייםיי ייםיי	"T"	"E"	"ט" "D"
	Black_snub_nosed_monkey	"G"	"T"	"F"	"T"	"ם"	"T"	"E"	"ם"
	Chinese_Hamster Rat	"G"	"T"	"F"	"T"	"ם"	"T"	"E"	"D"
	Mouse	"G"	т "Т"	"F"	"T"	"ם"	т "Т"	"E"	''D''
##	nouse	[,141]	[,142]	[,143]	[,144]	[,145]	[,146]	[,147]	[,148]
	Pig	"E"	"\"	"W"	"D"	"K"	"T"	"L"	"H"
	Chick	"P"	"A"	"K"	"F"	"K"	"M"	"K"	"Y"
	Human	"P"	"A"	"K"	"F"	"K"	"M"	"K"	"Y"
	Black_snub_nosed_monkey	"P"	"A"	"K"	"F"	"K"	"M"	"K"	"Y"
	Chinese_Hamster	"Р"	"A"	"K"	"F"	"K"	"M"	"K"	"Y"
	Rat	"P"	"A"	"K"	"F"	"K"	"M"	"K"	"Y"
	Mouse	"P"	"A"	"K"	"F"	"K"	"M"	"K"	"Y"
##	· <del></del> -	[,149]	[,150]	[,151]	[,152]	[,153]	[,154]	[,155]	[,156]
	Pig	"V"	"N"	"V"	"K"	"A"	"T"	"V"	"L"
	Chick	"W"	"G"	"V"	"A"	"S"	"F"	"L"	"-"
	Human	"W"	"G"	"V"	"A"	"S"	"F"	"L"	"-"
	Black_snub_nosed_monkey	"W"	"G"	"V"	"A"	"S"	"F"	"L"	"-"

	Chinese_Hamster	''W''	"G"	"V"	"A"	"S"	"F"	"L"	"_"
	Rat	"W"	"G"	"V"	"A"	"S"	"F"	"L"	"-"
	Mouse	"W"	"G"	"V"	"A"	"S"	"F"	"L"	
##	D:	[,157]	[,158]	[,159]	[,160]	[,161]	[,162]	[,163]	[,164]
	Pig	"M" "-"	"T" "-"	"K"	"A" "_"	" <u>V</u> "	"V"	"P" "_"	"E" "_"
	Chick	"-"	"-"	"-"	"-"	"-"	"-"	"-"	"-"
	Human	"_"	"_"	"_"	"_"	"_"	"_"	"_"	"_"
	Black_snub_nosed_monkey	"_"	"_"	"_"	"_"	"_"	"_"	"_"	"_"
	Chinese_Hamster Rat	"_"	"_"	"_"	"_"	"_"	"_"	"_"	"_"
	Mouse	"_"	"_"	"_"	"_"	"_"	"_"	"_"	"_"
##	nouse	[,165]	[,166]	[,167]	[,168]	[,169]	[,170]	[,171]	[,172]
	Pig	"M"	"E"	"K"	"R"	"G"	"G"	"G"	"S"
	Chick	"_"	"_"	"Q"	"K"	"G"	"N"	"D"	"D"
	Human	"_"	"_"	"Q"	"K"	"G"	"N"	"D"	"D"
	Black_snub_nosed_monkey	"-"	"_"	"Q"	"K"	"G"	"N"	"D"	"D"
	Chinese Hamster	"_"	"_"	"Q"	"R"	"G"	"N"	"D"	"D"
	Rat	"-"	"-"	"Q"	"R"	"G"	"N"	"ח"	"D"
	Mouse	"-"	"-"	"Q"	"R"	"G"	"N"	"D"	"D"
##		[,173]	[,174]	[,175]	[,176]	[,177]	[,178]	[,179]	[,180]
##	Pig	"V"	"L"	"I"	"V"	"S"	"S"	"V"	"G"
	Chick	"H"	"W"	"V"	"V"	"D"	"T"	"_"	"_"
	Human	"H"	"W"	"I"	"V"	"D"	"T"	"-"	"-"
	Black snub nosed monkey	"H"	"W"	"I"	"I"	"D"	"T"	"-"	"-"
	Chinese Hamster	"H"	''W''	"I"	"I"	"D"	"T"	"-"	"-"
	Rat	"H"	"W"	"I"	"I"	"D"	"T"	"-"	"-"
##	Mouse	"H"	"W"	"I"	"I"	"D"	"T"	"-"	"-"
##		[,181]	[,182]	[,183]	[,184]	[,185]	[,186]	[,187]	[,188]
##	Pig	"A"	"Y"	"H"	"P"	"F"	"P"	"N"	"L"
##	Chick	"D"	"Y"	"D"	"T"	"Y"	"-"	"-"	"-"
##	Human	"D"	"Y"	"D"	"T"	"Y"	"-"	"-"	"-"
##	${\tt Black\_snub\_nosed\_monkey}$	"D"	"Y"	"D"	"T"	"Y"	"-"	"-"	"-"
##	Chinese_Hamster	"D"	"Y"	"D"	"T"	"F"	"-"	"-"	"_"
##	Rat	"D"	"Y"	"D"	"T"	"F"	"-"	"-"	"-"
##	Mouse	"D"	"Y"	"D"	"T"	"F"	"_"	"_"	"_"
##	-	[,189]	[,190]	[,191]	[,192]	[,193]	[,194]	[,195]	[,196]
##	Pig	"G"	"P"	"Y"	"N"	"V"	"S"	"K"	"T"
	Chick	"-"	"-"	"_"	"_"	"-"	"-"	"-"	"-"
	Human	"-"	"_"	"_"	"-"	"_"	"_"	"_"	"_"
	Black_snub_nosed_monkey	"_"	"_"	"-"	"-"	"-"	"-"	"_"	"_"
	Chinese_Hamster	"_"	"_"	"_"	"-"	"-"	"-"	"_"	"_"
	Rat	"-"	"-"	"-"	"-"	"-"	"-"	"-"	"-"
	Mouse		_						
##	Dia	[,197] "A"	[,198] "L"	[,199] "L"	[,200] "G"	[,201] "L"	[,202]	[,203] "K"	[,204]
	Pig Chi ala	"_"	"_"	"_"	"_"	"_"	"_"	"_"	'' _ ''
	Chick Human	"_"	"_"	"_"	"_"	"_"	"_"	"_"	"_"
		"_"	"_"	"_"	"_"	"_"	"_"	"_"	"_"
	Black_snub_nosed_monkey	"_"	"_"	"_"	"_"	"_"	"_"	"_"	"_"
	Chinese_Hamster Rat	"_"	"_"	"_"	"_"	"_"	"_"	"_"	"_"
	Mouse	"_"	"_"	"_"	"_"	"_"	"_"	"_"	"_"
##	110450	[,205]	[,206]	[,207]	[,208]	[,209]	[,210]	[,211]	[,212]
	Pig	"L"	"A"	L,2073	"E"	"L"	"A"	"P"	"R"
	Chick	"-"	"A"	v "Т."	"H"	"Y"	"S"	"C"	"R"
11 TT				_		•	~	•	10

##	Human	"-"	"A"	"\"	"Q"	"Y"	"S"	"C"	"R"
##	${\tt Black\_snub\_nosed\_monkey}$	"-"	"A"	"V"	"Q"	"Y"	"S"	"C"	"R"
##	Chinese_Hamster	"-"	"A"	"L"	"Q"	"Y"	"S"	"C"	"R"
##	Rat	"-"	"A"	"L"	"Q"	"Y"	"S"	"C"	"R"
##	Mouse	"-"	"A"	"L"	"Q"	"Y"	"S"	"C"	"R"
##		[,213]	[,214]	[,215]	[,216]	[,217]	[,218]	[,219]	[,220]
##	Pig	"N"	"I"	"R"	"V"	"N"	"C"	"L"	"A"
##	Chick	"E"	"L"	"N"	"E"	"D"	"-"	"-"	"-"
##	Human	"L"	"L"	"N"	"L"	"D"	"-"	"-"	"-"
##	${\tt Black\_snub\_nosed\_monkey}$	"L"	"L"	"N"	"L"	"D"	"-"	"-"	"-"
##	Chinese_Hamster	"L"	"Q"	"N"	"L"	"D"	"-"	"-"	"-"
##	Rat	"L"	"Q"	"N"	"L"	"D"	"-"	"-"	"-"
##	Mouse	"L"	"Q"	"N"	"L"	"D"	"-"	"-"	"-"
##		[,221]	[,222]	[,223]	[,224]	[,225]	[,226]	[,227]	[,228]
##	Pig	"P"	"G"	"L"	"I"	"K"	"T"	"N"	"F"
##	Chick	"-"	"G"	"T"	"C"	"A"	"D"	"S"	"Y"
##	Human	"-"	"G"	"T"	"C"	"A"	"D"	"S"	"Y"
##	${\tt Black\_snub\_nosed\_monkey}$	"-"	"G"	"T"	"C"	"A"	"D"	"S"	"Y"
##	Chinese_Hamster	"-"	"G"	"T"	"C"	"A"	"D"	"S"	"Y"
##	Rat	"-"	"G"	"T"	"C"	"A"	"D"	"S"	"Y"
##	Mouse	"-"	"G"	"T"	"C"	"A"	"D"	"S"	"Y"
##		[,229]	[,230]	[,231]	[,232]	[,233]	[,234]	[,235]	[,236]
	Pig	"S"	"Q"	"V"	"L"	"W"	"M"	"D"	"K"
##	Chick	"S"	"F"	"V"	"F"	"-"	"-"	"S"	"R"
##	Human	"S"	"F"	"V"	"F"	"-"	"-"	"S"	"R"
##	${\tt Black\_snub\_nosed\_monkey}$	"S"	"F"	"V"	"F"	"-"	"-"	"S"	"R"
##	Chinese_Hamster	"S"	"F"	"V"	"F"	"-"	"-"	"S"	"R"
##	Rat	"S"	"F"	"V"	"F"	"-"	"-"	"S"	"R"
			_	-					
	Mouse	"S"	"F"	"V"	"F"	"-"	"-"	"S"	"R"
## ##	Mouse	[,237]	"F" [,238]	[,239]	[,240]	[,241]	[,242]	"S" [,243]	"R" [,244]
## ## ##	Mouse	[,237] "A"	"F" [,238] "R"	[,239] "K"	[,240] "E"	[,241] "Y"	[,242] "M"	"S" [,243] "K"	"R" [,244] "E"
## ## ##	Mouse	[,237] "A" "D"	"F" [,238] "R" "P"	[,239] "K" "K"	[,240] "E" "G"	[,241] "Y" "L"	[,242] "M" "P"	"S" [,243] "K" "P"	"R" [,244] "E" "E"
## ## ## ##	Mouse Pig Chick Human	[,237] "A" "D" "D"	"F" [,238] "R" "P"	[,239] "K" "K" "N"	[,240] "E" "G" "G"	[,241] "Y" "L" "L"	[,242] "M" "P" "P"	"S" [,243] "K" "P" "P"	"R" [,244] "E" "E" "E"
## ## ## ## ##	Mouse Pig Chick Human Black_snub_nosed_monkey	[,237] "A" "D" "D"	"F" [,238] "R" "P" "P"	[,239] "K" "K" "N"	[,240] "E" "G" "G"	[,241] "Y" "L" "L" "L"	[,242] "M" "P" "P"	"S" [,243] "K" "P" "P"	"R" [,244] "E" "E" "E" "E"
## ## ## ## ## ##	Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster	[,237] "A" "D" "D" "D"	"F" [,238] "R" "P" "P" "P"	[,239] "K" "K" "N" "N"	[,240] "E" "G" "G" "G"	[,241] "Y" "L" "L" "L"	[,242] "M" "P" "P" "P"	"S" [,243] "K" "P" "P" "P"	"R" [,244] "E" "E" "E" "E" "E"
## ## ## ## ## ##	Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat	[,237] "A" "D" "D" "D" "D"	"F" [,238] "R" "P" "P" "P" "P"	[,239] "K" "K" "N" "N" "N"	[,240] "E" "G" "G" "G" "G"	[,241] "Y" "L" "L" "L" "L"	[,242] "M" "P" "P" "T"	"S" [,243] "K" "P" "P" "P" "P"	"R" [,244] "E" "E" "E" "E" "E"
## ## ## ## ## ##	Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster	[,237] "A" "D" "D" "D" "D" "D" "D"	"F" [,238] "R" "P" "P" "P" "P" "P" "P"	[,239] "K" "K" "N" "N" "N" "N"	[,240] "E" "G" "G" "G" "G" "G"	[,241] "Y" "L" "L" "L" "L" "L"	[,242] "M" "P" "P" "T" "T" "S"	"S" [,243] "K" "P" "P" "P" "P" "P"	"R" [,244] "E" "E" "E" "E" "E" "E"
## ## ## ## ## ## ##	Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse	[,237] "A" "D" "D" "D" "D" "D" "D" [,245]	"F" [,238] "R" "P" "P" "P" "P" "P" "P" "P" "P" "P"	[,239] "K" "K" "N" "N" "N" "N" "N" "N"	[,240] "E" "G" "G" "G" "G" "G" "G" [,248]	[,241] "Y" "L" "L" "L" "L" "L" [,249]	[,242] "M" "P" "P" "T" "T" "S" [,250]	"S" [,243] "K" "P" "P" "P" "P" "P" "P" [,251]	"R" [,244] "E" "E" "E" "E" "E" "E" "E" [,252]
## ## ## ## ## ## ##	Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse  Pig	[,237] "A" "D" "D" "D" "D" "D" "D" "End to the content of the cont	"F" [,238] "R" "P" "P" "P" "P" "P" "P" "L"	[,239] "K" "K" "N" "N" "N" "N" "N" "R"	[,240] "E" "G" "G" "G" "G" "G" "I"	[,241] "Y" "L" "L" "L" "L" "L" "L" "R"	[,242] "M" "P" "P" "T" "T" "S" [,250] "R"	"S" [,243] "K" "P" "P" "P" "P" "P" "P" "L"	"R" [,244] "E" "E" "E" "E" "E" "E" "E" "G"
## ## ## ## ## ## ##	Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse  Pig Chick	[,237] "A" "D" "D" "D" "D" "D" "D" "S" "A"	"F" [,238] "R" "P" "P" "P" "P" "P" "L" "Q"	[,239] "K" "K" "N" "N" "N" "N" "N" "R" "R"	[,240] "E" "G" "G" "G" "G" "G" "I" "I"	[,241] "Y" "L" "L" "L" "L" "L" "L" "Y" "Y" "Y"	[,242] "M" "P" "P" "T" "T" "S" [,250] "R" "R"	"S" [,243] "K" "P" "P" "P" "P" "P" "L" "Q"	"R" [,244] "E" "E" "E" "E" "E" "E" "G" "G" "R"
## ## ## ## ## ## ## ##	Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse  Pig Chick Human	[,237] "A" "D" "D" "D" "D" "D" "S" "A" "A"	"F" [,238] "R" "P" "P" "P" "P" "P" "L" "Q"	[,239] "K" "K" "N" "N" "N" "N" "R" "K" "K"	[,240] "E" "G" "G" "G" "G" "I" "I" "I"	[,241] "Y" "L" "L" "L" "L" "R" "V"	[,242] "M" "P" "P" "T" "T" "S" [,250] "R" "R"	"S" [,243] "K" "P" "P" "P" "P" "P" "L" "Q" "Q"	"R" [,244] "E" "E" "E" "E" "E" "G" "R"
## ## ## ## ## ## ## ##	Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse  Pig Chick Human Black_snub_nosed_monkey	[,237] "A" "D" "D" "D" "D" "D" [,245] "S" "A" "A"	"F" [,238] "R" "P" "P" "P" "P" "P" "L" "Q" "Q"	[,239] "K" "K" "N" "N" "N" "N" "R" "K" "K"	[,240] "E" "G" "G" "G" "G" "I" "I" "I" "I"	[,241] "Y" "L" "L" "L" "L" "R" "V" "V"	[,242] "M" "P" "P" "T" "T" "S" [,250] "R" "R" "R"	"S" [,243] "K" "P" "P" "P" "P" "P" "L" "Q" "Q"	"R" [,244] "E" "E" "E" "E" "E" "G" "R" "R"
## ## ## ## ## ## ## ## ## ## ## ## ##	Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster	[,237] "A" "D" "D" "D" "D" "D" "A" "A" "A" "A"	"F" [,238] "R" "P" "P" "P" "P" "P" "Q" "Q" "R"	[,239] "K" "K" "N" "N" "N" "N" "N" "K" "K" "K"	[,240] "E" "G" "G" "G" "G" "I" "I" "I" "I" "I" "L"	[,241] "Y" "L" "L" "L" "L" "L" "Y" "Y" "Y" "Y"	[,242] "M" "P" "P" "T" "T" "S" [,250] "R" "R" "R" "R"	"S" [,243] "K" "P" "P" "P" "P" "P" "Q" "Q" "Q"	"R" [,244] "E" "E" "E" "E" "E" [,252] "G" "R" "R" "R"
## ## ## ## ## ## ## ## ## ## ## ## ##	Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat	[,237] "A" "D" "D" "D" "D" "D" "E,245] "S" "A" "A" "T"	"F" [,238] "R" "P" "P" "P" "P" "P" "Q" "Q" "Q" "R" "R"	[,239] "K" "K" "N" "N" "N" "N" "N" "K" "K" "K"	[,240] "E" "G" "G" "G" "G" "G" "I" "I" "I" "I" "L"	[,241] "Y" "L" "L" "L" "L" "L" "Y" "Y" "Y" "Y"	[,242] "M" "P" "P" "T" "T" "S" [,250] "R" "R" "R" "R" "R"	"S" [,243] "K" "P" "P" "P" "P" "P" "Q" "Q" "Q" "Q" "Q	"R" [,244] "E" "E" "E" "E" "E" "E" "R" "R" "R" "R"
## ## ## ## ## ## ## ## ## ## ## ## ##	Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster	[,237] "A" "D" "D" "D" "D" "D" "B" "A" "A" "A" "A" "T" "T"	"F" [,238] "R" "P" "P" "P" "P" "P" "Q" "Q" "Q" "R" "R" "R"	[,239] "K" "K" "N" "N" "N" "N" [,247] "R" "K" "K" "K" "R" "R"	[,240] "E" "G" "G" "G" "G" "G" "I" "I" "I" "I" "L" "L"	[,241] "Y" "L" "L" "L" "L" "L" "Y" "Y" "Y" "Y"	[,242] "M" "P" "P" "T" "T" "S" [,250] "R" "R" "R" "R" "R" "R"	"S" [,243] "K" "P" "P" "P" "P" "P" "Q" "Q" "Q" "Q" "Q	"R" [,244] "E" "E" "E" "E" "E" "E" "R" "R" "R" "R"
######################################	Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse	[,237] "A" "D" "D" "D" "D" "D" [,245] "S" "A" "A" "T" "T" [,253]	"F" [,238] "R" "P" "P" "P" "P" "P" "Q" "Q" "Q" "R" "R" "R" "R" [,254]	[,239] "K" "K" "N" "N" "N" "N" [,247] "R" "K" "K" "K" "R" "R" "R" "R" [,255]	[,240] "E" "G" "G" "G" "G" [,248] "I" "I" "I" "L" "L" [,256]	[,241] "Y" "L" "L" "L" "L" "L" "Y" "Y" "Y" "V" "V" "V" "V" [,257]	[,242] "M" "P" "P" "T" "T" "S" [,250] "R" "R" "R" "R" "R" "R" "R" "R" [,258]	"S" [,243] "K" "P" "P" "P" "P" [,251] "L" "Q" "Q" "Q" "Q" "Q" "Q" "Q" [,259]	"R" [,244] "E" "E" "E" "E" "E" [,252] "G" "R" "R" "R" "R" "R" "R" "R" [,260]
## ## ## ## ## ## ## ## ## ## ## ## ##	Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse	[,237] "A" "D" "D" "D" "D" "D" [,245] "S" "A" "A" "T" "T" [,253] "N"	"F" [,238] "R" "P" "P" "P" "P" "P" "Q" "Q" "Q" "R" "R" "R" [,254] "P"	[,239] "K" "K" "N" "N" "N" "N" [,247] "R" "K" "K" "R" "R" "R" "R" [,255]	[,240] "E" "G" "G" "G" "G" [,248] "I" "I" "I" "L" "L" [,256] "D"	[,241] "Y" "L" "L" "L" "L" [,249] "R" "V" "V" "V" "V" "V" "C" [,257]	[,242] "M" "P" "P" "T" "T" "S" [,250] "R" "R" "R" "R" "R" "R" "R" "R" "R" "R	"S" [,243] "K" "P" "P" "P" "P" [,251] "L" "Q" "Q" "Q" "Q" "Q" "Q" "G"	"R" [,244] "E" "E" "E" "E" "E" [,252] "G" "R" "R" "R" "R" "R" "R" "R" "R" "IR" "R" "
######################################	Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse  Pig Chick	[,237] "A" "D" "D" "D" "D" "D" [,245] "S" "A" "A" "T" "T" "T" "T" [,253] "N"	"F" [,238] "R" "P" "P" "P" "P" "P" [,246] "L" "Q" "Q" "R" "R" "R" "R" "R" "R" "I"	[,239] "K" "K" "N" "N" "N" "N" [,247] "R" "K" "K" "R" "R" "R" "E" "E" "D"	[,240] "E" "G" "G" "G" "G" "I" "I" "I" "L" "L" "L" "L" "L" "L" "L	[,241] "Y" "L" "L" "L" [,249] "R" "V" "V" "V" "V" "C" "C"	[,242] "M" "P" "P" "T" "T" "S" [,250] "R" "R" "R" "R" "R" "R" "R" "R" "R" "R	"S" [,243] "K" "P" "P" "P" "P" "P" [,251] "L" "Q" "Q" "Q" "Q" "Q" "G" "G" "G"	"R" [,244] "E" "E" "E" "E" "E" [,252] "G" "R" "R" "R" "R" "R" "R" "IR" "R" "IR" "R" "
######################################	Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse	[,237] "A" "D" "D" "D" "D" "D" "A" "A" "A" "T" "T" "T" [,253] "N" "Q"	"F" [,238] "R" "P" "P" "P" "P" "P" [,246] "L" "Q" "Q" "R" "R" "R" "R" "R" "P" "I" "E"	[,239] "K" "K" "N" "N" "N" "N" [,247] "K" "K" "K" "E" "E" "D"	[,240] "E" "G" "G" "G" "G" "I" "I" "I" "L" "L" "L" "L" "L" "L" "L	[,241] "Y" "L" "L" "L" "L" [,249] "R" "V" "V" "V" "V" "C" "C"	[,242] "M" "P" "P" "T" "T" "S" [,250] "R" "R" "R" "R" "R" "R" "R" "R" "R" "R	"S" [,243] "K" "P" "P" "P" "P" "P" "Q" "Q" "Q" "Q" "Q	"R" [,244] "E" "E" "E" "E" "E" [,252] "G" "R" "R" "R" "R" "R" "I" "I" "I" "I" "I
############################	Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster	[,237] "A" "D" "D" "D" "D" "D" "B" "A" "A" "A" "T" "T" [,253] "N" "Q" "Q"	"F" [,238] "R" "P" "P" "P" "P" "P" "Q" "Q" "Q" "R" "R" "R" "R" "R" "I" "P" "I" "E"	[,239] "K" "K" "N" "N" "N" "N" "R" "K" "K" "R" "R" "E" "D" "E"	[,240] "E" "G" "G" "G" "G" "G" "I" "I" "I" "L" "L" "L" "L" "L" "L" "L	[,241] "Y" "L" "L" "L" "L" "L" "Y" "V" "V" "V" "V" "C" "C"	[,242] "M" "P" "P" "T" "T" "S" [,250] "R" "R" "R" "R" "R" "R" "R" "R" "L" "L"	"S" [,243] "K" "P" "P" "P" "P" "P" "Q" "Q" "Q" "Q" "Q	"R" [,244] "E" "E" "E" "E" "E" "E" "R" "R" "R" "R"
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#############################	Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse  Pig Chick Human Black_snub_nosed_monkey Chinese_Hamster Rat Mouse	[,237] "A" "D" "D" "D" "D" "D" [,245] "S" "A" "A" "T" "T" [,253] "N" "Q" "Q" "Q"	"F" [,238] "R" "P" "P" "P" "P" "P" "Q" "Q" "Q" "R" "R" "R" "R" [,254] "P" "I" "E" "E" "E"	[,239] "K" "K" "N" "N" "N" "N" [,247] "R" "K" "K" "R" "R" "E" "E" "E" "E"	[,240] "E" "G" "G" "G" "G" "G" [,248] "I" "I" "I" "L" "L" "L" "L" "L" "L" "L"	[,241] "Y" "L" "L" "L" "L" "L" "Y" "V" "V" "V" "V" "C" "C" "C" "C"	[,242] "M" "P" "P" "T" "T" "S" [,250] "R" "R" "R" "R" "R" "L" "L" "L" "L"	"S" [,243] "K" "P" "P" "P" "P" "P" [,251] "L" "Q" "Q" "Q" "Q" "Q" "Q" "Q" "Q" """	"R" [,244] "E" "E" "E" "E" "E" [,252] "G" "R" "R" "R" "R" "I" "I" """ """ """ ""
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## Mouse
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## Human
## Black_snub_nosed_monkey
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## Chinese_Hamster
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## Rat
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                                                "L"
## Mouse
##
## $call
## read.fasta(file = "FindaGene_Alignment.fasta")
seqID <- seqidentity(alignment, normalize=TRUE, similarity=FALSE, ncore=1, nseg.scale=1)</pre>
heatmap(seqID, cexRow = 0.7, cexCol = 0.7, margins=c(8,3))
```

