API Documentation

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1 Script script-MLVA_normalizer

Normalization_MLVA is a script conceived to normalize MLVA (Multiple Loci VNTR Analysis) results and allow data exchanges between laboratories. Indeed even if MLVA is a typing tool used at today to characterize several major pathogens as Brucella, Mycobacterium tuberculosis or Salmonella, the results obtained are instrument dependent and cannot be compared, between laboratories implied in the surveillance, without normalization. This script is conceived to be applied to any bacterial genera and is not depending from the MLVA protocol used.

1.1 Functions

get_parser()

Parse arguments

Return Value

arguments list

(type=parser object)

open_file(*Arguments*)

Read files and converting to matrix

Parameters

`Arguments:` input files

(type=input)

Return Value

matrix files and length columns to matrix

(type=list)

imin_imax(*matrix*, *matrixn*, *k*, *ncol*)

Calculate n Repeated Unit(RU) min and maxi in to matrix

Parameters

`matrix:` data input file called REF [-r REF]

(type=list)

`matrixn:` data input file called MLVA [-d MLVA]

(type=list)

`k:` variable for a loop for reading in the matrix

(type=float)

`ncol:` length columns to matrix

(type=float)

Return Value

n RU max and n RU min in to matrix

(type=float)

table_normalisation_pour_VNTR_2motifs(*matrix*, *matrixn*, *k*, *ncol*)

Normalization table for 2 patterns to VNTR

Parameters

`matrix:` data input file called REF [-r REF]
(type=list)

`matrixn:` data input file called MLVA [-d MLVA]
(type=list)

`k:` variable for a loop for reading in the matrix
(type=float)

`ncol:` length columns to matrix
(type=float)

Return Value

list RU1 and list RU2 and a list size ref average and a list size MLVA average
(type=list)

table_normalisation_pour_VNTR_1motif(*matrix*, *matrixn*, *imin*, *imax*, *k*, *ncol*)

Normalization table for 1 patterns to VNTR

Parameters

`matrix:` data input file called REF [-r REF]
(type=list)

`matrixn:` data input file called MLVA [-d MLVA]
(type=list)

`k:` variable for a loop for reading in the matrix
(type=float)

`ncol:` length columns to matrix
(type=float)

`imin:` n RU min in to matrix
(type=float)

`imax:` n RU max in to matrix
(type=float)

Return Value

list RU and a list size ref average
(type=list)

compensation(*matrix*, *matrixn*, *k*, *ncol*, *imin*, *imax*)

Compensation table

Parameters

`matrix:` data input file called REF [-r REF]
(type=list)

`matrixn:` data input file called MLVA [-d MLVA]
(type=list)

`k:` variable for a loop for reading in the matrix
(type=float)

`ncol:` length columns to matrix
(type=float)

`imin:` n RU min in to matrix
(type=float)

`imax:` n RU max in to matrix
(type=float)

Return Value

list compensation table
(type=list)

table_de_correction(*matrix_norma*, *matrix*, *matrixn*, *k*, *o*, *ncoln*, *ncol*, *imin*, *imax*, *compensation_moyenne*, *compensations*)

Correction table

Parameters

`matrix:` data input file called REF [-r REF]
(type=list)

`matrixn:` data input file called MLVA [-d MLVA]
(type=list)

`k:` variable for a loop for reading in the matrix
(type=float)

`ncol:` length columns to matrix
(type=float)

`imin:` n RU min in to matrix
(type=float)

`imax:` n RU max in to matrix
(type=float)

`matrix_norma:` data normalization in to matrix
(type=list)

`o:` variable for a loop for reading in the matrixn
(type=float)

`ncoln:` length columns to matrixn
(type=float)

`compensation_moyenne:` data average compensation
(type=list)

Return Value

list correction table
(type=list)

profil_MLVA(*matrix_norma*)

MLVA profil

Parameters

`matrix_norma:` data normalization in to matrix
(type=list)

Return Value

list MLVA profil
(type=list)

ecriture_fichier(*Arguments*, *matrix*, *matrixn*, *matrix_norma*, *profil_mlva*)

Writing output file

Parameters

`profil_mlva:` MLVA profil

(type=list)

`matrix_norma:` data normalization in to matrix

(type=list)

`Arguments:` input files

(type=input)

`matrix:` data input file called REF [-r REF]

(type=list)

`matrixn:` data input file called MLVA [-d MLVA]

(type=list)

Return Value

out close writing file

(type=out.close)

main()

1.2 Variables

Name	Description
___doc___	**Value:** `...`
___package___	**Value:** `None`

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