Detection of DNA copy number alterations using penalized least squares regression. [1]

Enviado por Anonymous (no verificado) el 27 septiembre 2014 - 2:05pm

Título	Detection of DNA copy number alterations using penalized least squares regression.
Publication Type	Journal Article
Year of Publication	2005
Autores	Huang, T [2], Wu, B [3], Lizardi, P [4], Zhao, H [5]
Journal	Bioinformatics
Volume	21
Issue	20
Pagination	3811-7
Date Published	2005 Oct 15
ISSN	1367-4803

Abstract	**MOTIVATION:** Genomic DNA copy number alterations are characteristic of many human diseases including cancer. Various techniques and platforms have been proposed to allow researchers to partition the whole genome into segments where copy numbers change between contiguous segments, and subsequently to quantify DNA copy number alterations. In this paper, we incorporate the spatial dependence of DNA copy number data into a regression model and formalize the detection of DNA copy number alterations as a penalized least squares regression problem. In addition, we use a stationary bootstrap approach to estimate the statistical significance and false discovery rate.
	RESULTS: The proposed method is studied by simulations and illustrated by an application to an extensively analyzed dataset in the literature. The results show that the proposed method can correctly detect the numbers and locations of the true breakpoints while appropriately controlling the false positives.
	AVAILABILITY: http://bioinformatics.med.yale.edu/DNACopyNumber [6]
	CONTACT: hongyu.zhao@yale.edu [7]
	SUPPLEMENTARY INFORMATION: http://bioinformatics.med.yale.edu/DNACopyNumber [6].

Privacidad | Términos | Normas de la Comunidad | Sobre CienciaPR | Contáctenos

Links
[1] https://www.cienciapr.org/es/detection-dna-copy-number-alterations-using-penalized-least-squares-regression [2] https://www.cienciapr.org/es/biblio?f%5Bauthor%5D=4048 [3] https://www.cienciapr.org/es/biblio?f%5Bauthor%5D=4049 [4] https://www.cienciapr.org/es/biblio?f%5Bauthor%5D=4034 [5] https://www.cienciapr.org/es/biblio?f%5Bauthor%5D=4050 [6] http://bioinformatics.med.yale.edu/DNACopyNumber [7] mailto:hongyu.zhao@yale.edu [8] http://dx.doi.org/10.1093/bioinformatics/bti646 [9] https://www.ncbi.nlm.nih.gov/pubmed/16131523?dopt=Abstract