

Resource Summary Report

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Alizadehlab: MeeboChip and HeeboChip Open Source Project

RRID:SCR_008384

Type: Tool

Proper Citation

Alizadehlab: MeeboChip and HeeboChip Open Source Project (RRID:SCR_008384)

Resource Information

URL: <http://alizadehlab.stanford.edu/>

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Description: This is an open-source Mouse Exonic Evidence-Based Oligonucleotide Chip (MEEBOChip), and are in the process of building the human counterpart, HEEBOChip. The set of 70mers for MEEBOChip is already available from Illumina, Inc., with synthesis of HEEBOChip 70mers in progress. Both arrays are based on a novel selection of exonic long-oligonucleotides (70-mers) from a genomic annotation of the corresponding complete genome sequences, using a transcriptome-based annotation of exon structure for each genomic locus. Using a combination of existing and custom-tailored tools and datasets (including millions of mRNA and EST sequences), we built and performed a systematic examination of transcript-supported exon structure for each genomic locus at the base-pair level (i.e., exonic evidence). This strategy allowed them to select both constitutive and in many cases alternative exons for nearly every gene in the corresponding genome (e.g., protocadherin locus), allowing an unprecedented exploration of human and mouse biology. Furthermore, they used experimentally derived data to hone the selection of these 70mers, helping maximize their performance under typical fluorescent labeling and hybridization conditions. Specifically, they applied and refined the ArrayOligoSelector algorithm from Joe DeRisis laboratory to select 70mers, considering not only their uniqueness (i.e., hybridization specificity) within the content of the entire genome, but also to overcome the known biases of labeling and hybridization methods (e.g., 3-biased reverse transcription and in vitro transcription reactions).

Synonyms: MeeboChip and HeeboChip

Resource Type: data or information resource, database

Keywords: mouse, exonic, evidence, oligonucleotide, chip, human, array, genomic, annoation, sequence, transcriptome, annotation, dataset, mrna, est, systematic, transcript,

exon, locus, biology

Funding: Stanford University ;
UCSF ;
Stowers-Institute ;
Rockefeller University ;
Basel University

Resource Name: Alizadehlab: MeeboChip and HeeboChip Open Source Project

Resource ID: SCR_008384

Alternate IDs: nif-0000-30030

Record Creation Time: 20220129T080247+0000

Record Last Update: 20260905T133152+0000

Ratings and Alerts

No rating or validation information has been found for Alizadehlab: MeeboChip and HeeboChip Open Source Project.

No alerts have been found for Alizadehlab: MeeboChip and HeeboChip Open Source Project.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 7 mentions in open access literature.

Listed below are recent publications. The full list is available at [Kravitz](#) .

Dvorianchikova G, et al. (2019) The epigenetic basis for the impaired ability of adult murine retinal pigment epithelium cells to regenerate retinal tissue. Scientific reports, 9(1), 3860.

Dvorianchikova G, et al. (2019) Development and epigenetic plasticity of murine M??ller glia. Biochimica et biophysica acta. Molecular cell research, 1866(10), 1584.

Van Prooyen N, et al. (2016) CD103+ Conventional Dendritic Cells Are Critical for TLR7/9-Dependent Host Defense against Histoplasma capsulatum, an Endemic Fungal Pathogen of Humans. PLoS pathogens, 12(7), e1005749.

Dvorianchikova G, et al. (2015) Molecular Characterization of Notch1 Positive Progenitor Cells in the Developing Retina. PloS one, 10(6), e0131054.

Rappa G, et al. (2010) Phenotypic characterization of mammosphere-forming cells from the human MA-11 breast carcinoma cell line. *Experimental cell research*, 316(9), 1576.

Liu M, et al. (2006) Early days: genomics and human responses to infection. *Current opinion in microbiology*, 9(3), 312.

Ylstra B, et al. (2006) BAC to the future! or oligonucleotides: a perspective for micro array comparative genomic hybridization (array CGH). *Nucleic acids research*, 34(2), 445.