# **Resource Summary Report**

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# **ExPANdS**

RRID:SCR\_005199

Type: Tool

### **Proper Citation**

ExPANdS (RRID:SCR\_005199)

#### Resource Information

URL: http://cran.r-project.org/web/packages/expands/

Proper Citation: ExPANdS (RRID:SCR\_005199)

**Description:** Software that characterizes coexisting subpopulations (SPs) in a tumor using copy number and allele frequencies derived from exome- or whole genome sequencing input data. The model amplifies the statistical power to detect coexisting genotypes, by fully exploiting run-specific tradeoffs between depth of coverage and breadth of coverage. ExPANdS predicts the number of clonal expansions, the size of the resulting SPs in the tumor bulk, the mutations specific to each SP and tumor purity. The main function runExPANdS provides the complete functionality needed to predict coexisting SPs from single nucleotide variations (SNVs) and associated copy numbers. The robustness of the subpopulation predictions by ExPANdS increases with the number of mutations provided. It is recommended that at least 200 mutations are used as an input to obtain stable results.

**Abbreviations:** ExPANdS

**Synonyms:** Expanding Ploidy and Allele Frequency on Nested Subpopulations

Resource Type: software resource

**Defining Citation: PMID:24177718** 

Keywords: copy number, allele, frequency, exome, whole genome, sequencing, ploidy,

subpopulation, genotype, mutation, single nucleotide variation

Related Condition: Tumor

Availability: GNU General Public License, v2

Resource Name: ExPANdS

Resource ID: SCR\_005199

Alternate IDs: OMICS\_00218

### **Ratings and Alerts**

No rating or validation information has been found for ExPANdS.

No alerts have been found for ExPANdS.

#### Data and Source Information

Source: SciCrunch Registry

## **Usage and Citation Metrics**

We found 902 mentions in open access literature.

Listed below are recent publications. The full list is available at FDI Lab - SciCrunch.org.

, et al. (2023) Closing the loop: autonomous experiments enabled by machine-learning-based online data analysis in synchrotron beamline environments. Journal of synchrotron radiation, 30(Pt 6), 1064.

Bado IL, et al. (2021) The bone microenvironment increases phenotypic plasticity of ER+ breast cancer cells. Developmental cell, 56(8), 1100.

Zhang W, et al. (2021) The bone microenvironment invigorates metastatic seeds for further dissemination. Cell, 184(9), 2471.

Lobner E, et al. (2020) Getting CD19 Into Shape: Expression of Natively Folded "Difficult-to-Express" CD19 for Staining and Stimulation of CAR-T Cells. Frontiers in bioengineering and biotechnology, 8, 49.

Mukherjee S, et al. (2020) Amphiphilic Cationic Macromolecules Highly Effective Against Multi-Drug Resistant Gram-Positive Bacteria and Fungi With No Detectable Resistance. Frontiers in bioengineering and biotechnology, 8, 55.

Delgado-Bellido D, et al. (2020) Endothelial Phosphatase VE-PTP Participates in Vasculogenic Mimicry by Preventing Autophagic Degradation of VE-Cadherin. Frontiers in oncology, 10, 18.

Tang Y, et al. (2020) Electroacupuncture Ameliorates Cognitive Impairment by Inhibiting the JNK Signaling Pathway in a Mouse Model of Alzheimer's Disease. Frontiers in aging

neuroscience, 12, 23.

Akinnuga AM, et al. (2020) Bredemolic Acid Improves Cardiovascular Function and Attenuates Endothelial Dysfunction in Diet-Induced Prediabetes: Effects on Selected Markers. Cardiovascular therapeutics, 2020, 1936406.

Qin ZQ, et al. (2020) Heterozygous p53-R280T Mutation Enhances the Oncogenicity of NPC Cells Through Activating PI3K-Akt Signaling Pathway. Frontiers in oncology, 10, 104.

Shi X, et al. (2020) Chloroquine and Rapamycin Augment Interleukin-37 Expression via the LC3, ERK, and AP-1 Axis in the Presence of Lipopolysaccharides. Journal of immunology research, 2020, 6457879.

Du L, et al. (2020) Anti-Inflammatory Activity of Sanjie Zhentong Capsule Assessed By Network Pharmacology Analysis of Adenomyosis Treatment. Drug design, development and therapy, 14, 697.

Liu H, et al. (2020) PLXNC1 Enhances Carcinogenesis Through Transcriptional Activation of IL6ST in Gastric Cancer. Frontiers in oncology, 10, 33.

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Isola R, et al. (2020) Neuroprotection by the Immunomodulatory Drug Pomalidomide in the Drosophila LRRK2WD40 Genetic Model of Parkinson's Disease. Frontiers in aging neuroscience, 12, 31.

Li L, et al. (2020) Trophoblast-Targeted Nanomedicine Modulates Placental sFLT1 for Preeclampsia Treatment. Frontiers in bioengineering and biotechnology, 8, 64.

Liang H, et al. (2020) Contribution of TGF-Beta-Mediated NLRP3-HMGB1 Activation to Tubulointerstitial Fibrosis in Rat With Angiotensin II-Induced Chronic Kidney Disease. Frontiers in cell and developmental biology, 8, 1.

Yun JW, et al. (2019) Biomarkers Associated with Tumor Heterogeneity in Prostate Cancer. Translational oncology, 12(1), 43.

, et al. (2019) THBS1 Is a Novel Serum Prognostic Factors of Acute Myeloid Leukemia. Frontiers in oncology, 9, 1567.

Oh BY, et al. (2019) Intratumor heterogeneity inferred from targeted deep sequencing as a prognostic indicator. Scientific reports, 9(1), 4542.

Little P, et al. (2019) Associating somatic mutations to clinical outcomes: a pan-cancer study of survival time. Genome medicine, 11(1), 37.