



OmicSoft Land Explorer: Making disease-relevant data accessible to biologists

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OmicSoft Land Explorer

Disease-relevant 'omics data, made accessible to biologists

Hosted and on-site solutions

Hosting enables very quick access to OmicSoft data
On-site solutions to view internal data in Land Explorer

Access OmicSoft's Land collections

DiseaseLand, OncoLand, BodyMaps, Internal Lands
Streamlined versions of Land Views
Search cross-Land with "Explorer" pages

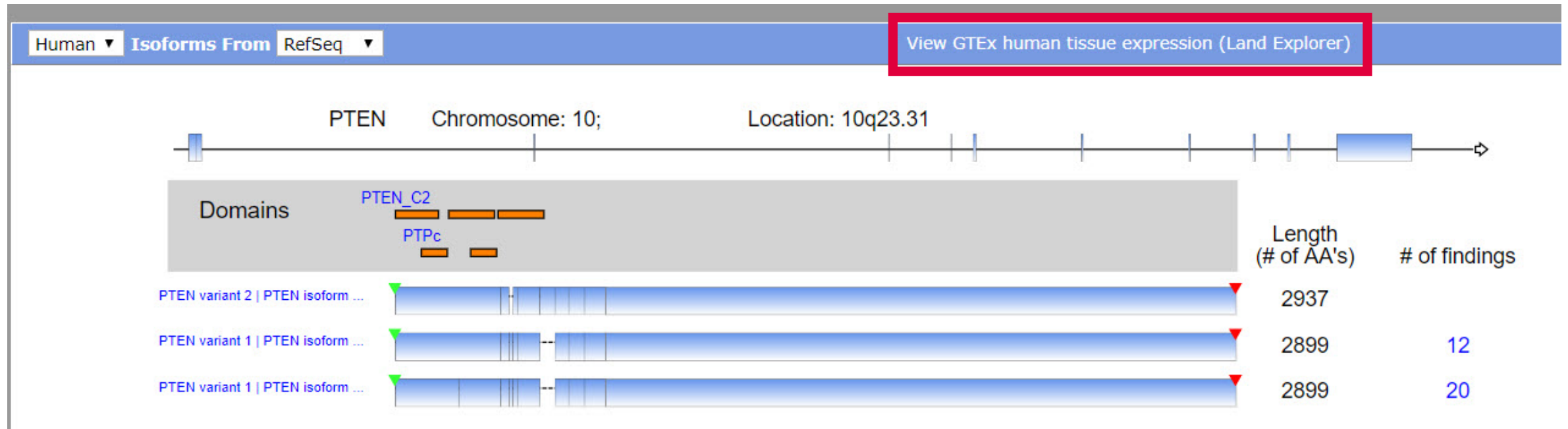
Web-based app

No installation; PC-/mac-/Linux-compatible
Share custom web links with colleagues

GTEX expression data in Ingenuity Pathway Analysis (IPA)

How many of you have browsed GTEX expression data through the IPA interface?

How many have used the Land Explorer cross-functionality from this page?



Human ▾ Isoforms From RefSeq ▾ **View GTEX human tissue expression (Land Explorer)**

PTEN Chromosome: 10; Location: 10q23.31

Domains: PTEN_C2, PTPc

Variant	Length (# of AA's)	# of findings
PTEN variant 2 PTEN isoform ...	2937	
PTEN variant 1 PTEN isoform ...	2899	12
PTEN variant 1 PTEN isoform ...	2899	20

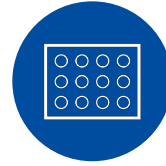
Wealth of content, information, and queries in Land Explorer

Many sample, gene and comparison views available



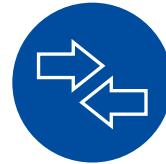
Gene level views

- DNA-seq
- Copy number
- RNA-seq quantification
- RNA-seq mutation
- RNA-seq fusion
- Microarray expression
- Integration
- Comparisons
- miRNA-Seq
- Proteomics
- Methylation



Sample level views

- Survival data
- Data availability



Comparison level views

- Volcano plot
- Bubble plot

<https://omicsoftdocs.github.io/ArraySuiteDoc/tutorials/Land%20Explorer/Land%20Views/Views/>

Case study: Live demo

Diagnostic Oncology

Research

Identification of a prognostic RNA-Seq expression signature in endometrial carcinoma

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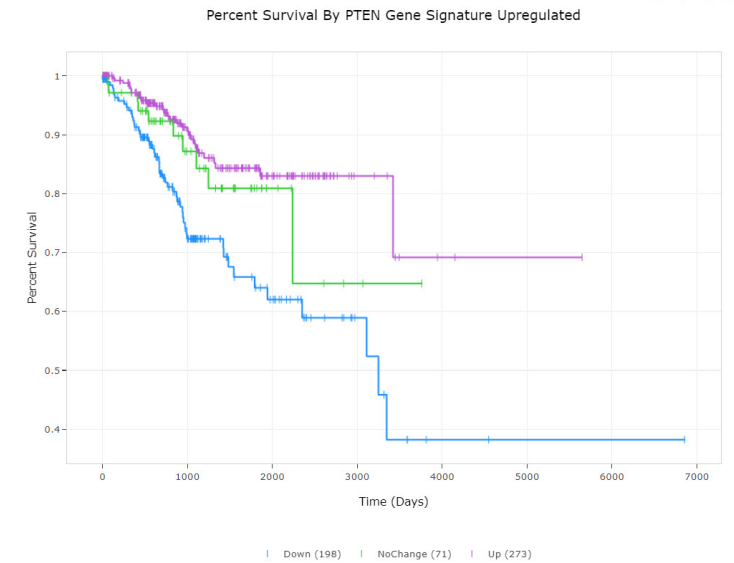
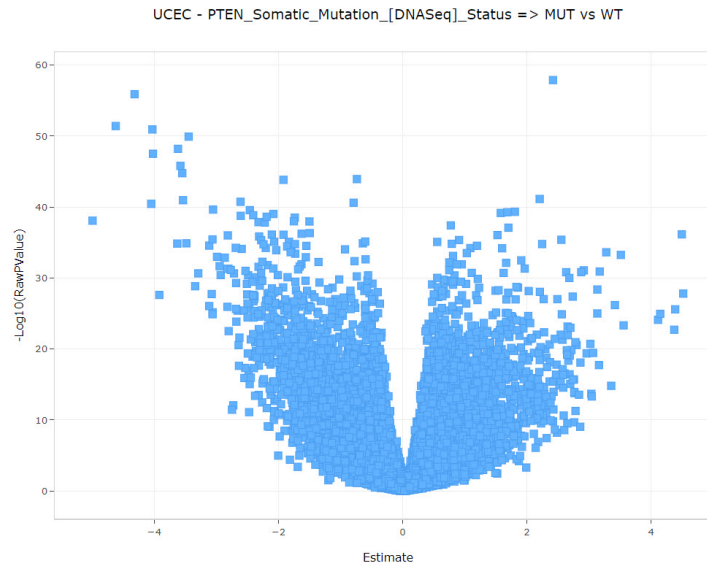
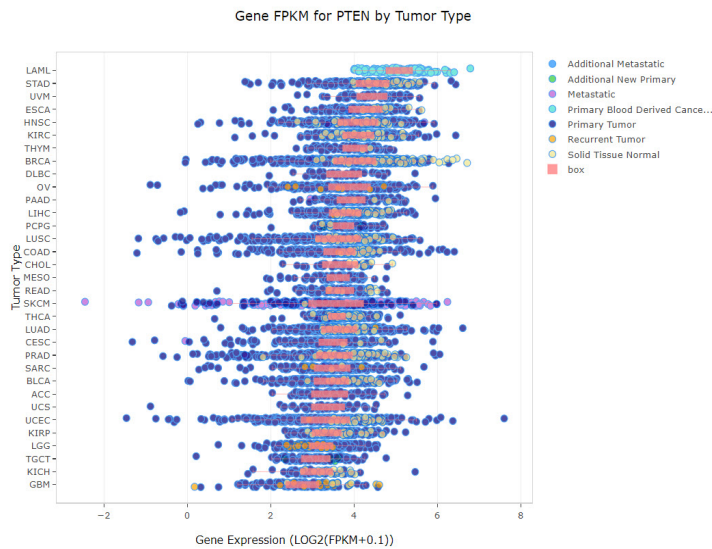
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Abstract

Case study: Live demo

Summary

Land Explorer provides an opportunity to quickly and easily browse, filter and visualize the millions of data points and annotations in the Lands



Found all TCGA expression data for PTEN across different cancer types

Browsed and filtered the prebuilt comparisons for expression data comparing UCEC patients with WT and MUT status for PTEN

Used a gene set as a prognostic indicator in endometrial carcinoma as a surrogate for PTEN mutation status



Questions?

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Summary

Land Explorer provides an opportunity to quickly and easily browse, filter and visualize the millions of data points and annotations in the Lands

- Found all TCGA expression data for PTEN across different cancer types
- Visualized the distribution of PTEN somatic mutations across TCGA samples
- Profiled the landscape of PTEN mutations across endometrial carcinoma samples
- Examined Kaplan-Meier survival plots for endometrial carcinoma separated by PTEN mutation status
- Browsed and filtered the prebuilt comparisons for expression data comparing endometrial carcinoma samples with- or without somatic mutations in PTEN
- Selected genes from the volcano plot visualization and created an RNA-Seq gene set
- Used the gene set expression characteristics as a surrogate for PTEN mutation status as a prognostic indicator in endometrial carcinoma