Precede Bio
Insight

Unlock gene expression from plasma and further decode tumor and immune biology

Precede Bio Insight™ is a research-use-only (RUO) product that:

- Reveals genome-wide tumor and immune transcriptional dynamics
- Enables more informed R&D decisions, including patient selection and treatment combination and sequencing strategies
- Is powered by Comprehensive Epigenomic Profiling of enhancers and promoters from 1mL plasma and an advanced ML computational platform

FEATURES

Assay type	Plasma-based comprehensive epigenomic profiling
Sample input	1mL plasma (Streck tube blood collection recommended)
Biological analyte	Cell-free DNA associated with: • H3K27ac • H3K4me3 • DNA methylation
Assay readout	Next-generation sequencing (NGS)

1mL plasma
Sample input

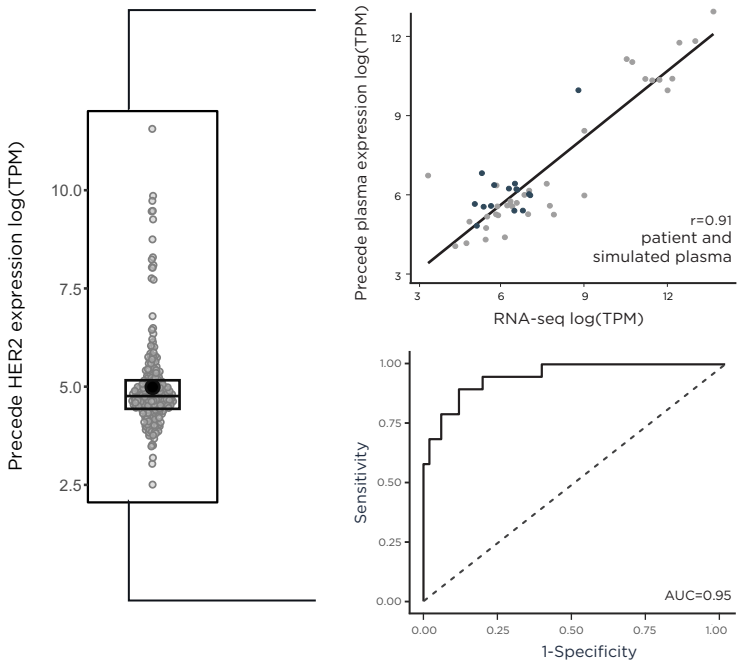
~100M
Gene regulation datapoints sequenced

Genome-wide
Tumor & immune transcriptional dynamics

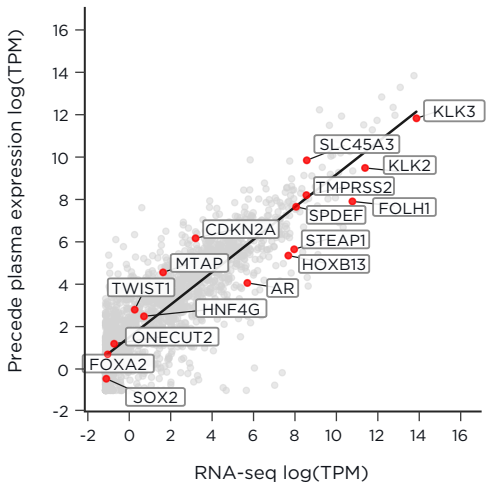
Resolution to 0.5% ctDNA
Quantitation of tumor fraction and tumor gene expression down to 0.5% ctDNA fraction

Precede Bio Insight enables liquid biopsy of gene expression from 1mL of plasma

Expression of HER2



Expression of 1000s of genes



- Precede Bio Insight HER2 expression from plasma (left), with strong concordance to tissue RNA-seq (r=0.91; middle top) and IHC status (AUC=0.95; middle bottom).
- Across thousands of disease-relevant genes, expression levels from patient plasma show high concordance with matched tumor RNA-seq (prostate cancer shown; Spearman=0.83) (right).

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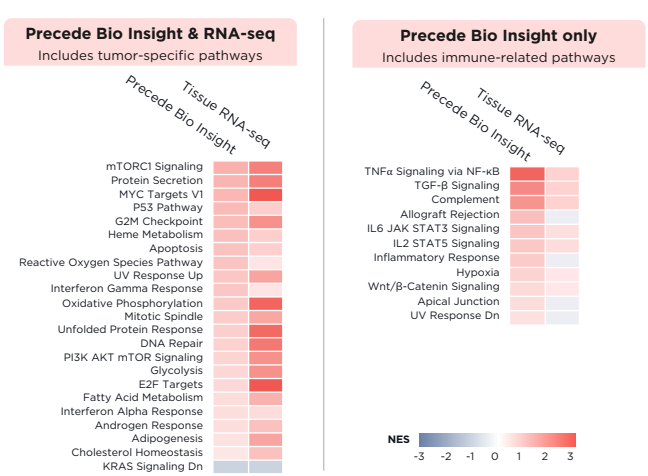
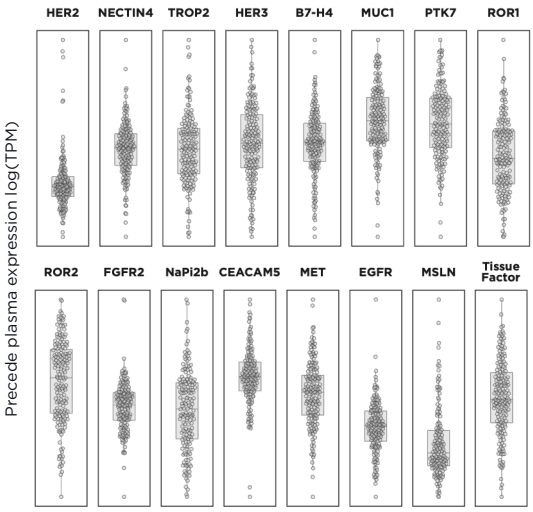
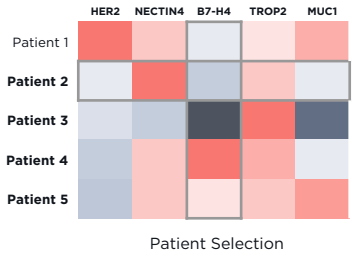
Discover tumor and immune related pathways associated with response and resistance

- Precede Bio Insight captures both tumor-intrinsic and immune-related differentially activated pathways between responders and non-responders, with strong concordance to matched tissue RNA-seq (23 out of 27 pathways; left).
- Plasma profiling captures 11 additional immune-related pathways that would be missed by tissue RNA-seq alone (right).

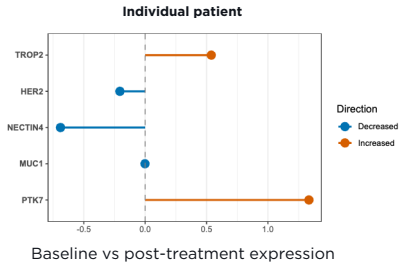


Map surface target expression genome-wide





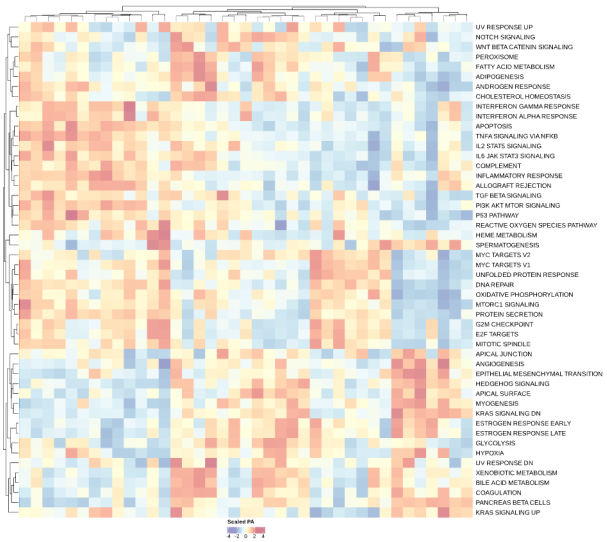
Therapy Selection



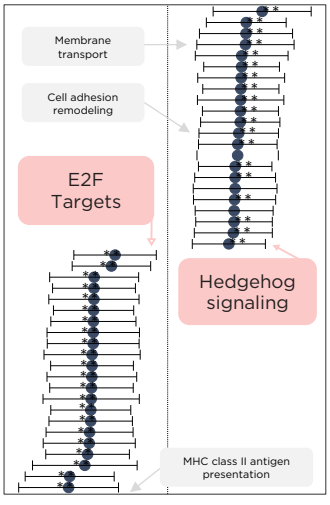
- Precede Bio Insight enables genome-wide assessment of therapeutically relevant target expression from plasma (left).
- ADC target expression profiles enable patient and therapy selection (middle).
- Longitudinal profiling reveals treatment-induced transcriptional changes to inform treatment sequencing strategies (right).

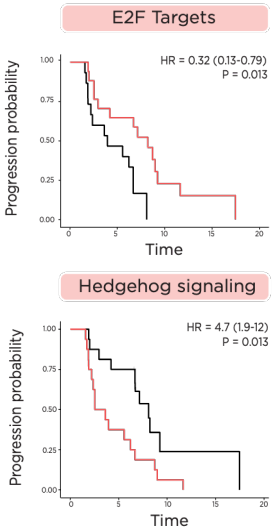
Reveal genes and pathways associated with response and resistance

Pathway activity across patients



Pathways associated with response and resistance stratify outcome





- Precede Bio Insight identifies pathway-level differences in biological activity associated across patients at baseline (left).
- Pathway-level differences are associated with clinical outcomes (middle), such as elevated E2F target (cell cycle) activity at baseline, and associates with improved outcomes after therapy (top right), while elevated Hedgehog pathway activity at baseline associates with worse outcomes (bottom right).

DATA OUTPUT

Output	Description
Genome-wide gene expression from 1mL plasma	Precede Bio Insight provides two complementary measures of inferred gene expression: • **Transcriptional Activation**: A readout of transcriptional activation relative to a healthy volunteer baseline for every gene. Analysis is indication-agnostic and captures both tumor-intrinsic and tumor-extrinsic biology. • **Tumor-specific Gene Expression**: An RNA-seq–like log(TPM) quantitative readout of tumor-specific gene expression for thousands of disease-defining genes using indication-specific algorithms, covering 13+ indications.
Tumor fraction	Fraction of circulating cell-free DNA that is tumor-derived.

PERFORMANCE

Output	Metric
Transcriptional Activation	• For any disease-specific gene in the genome, recovers transcriptional activation down to 1.4% tumor fraction in a single sample. • In a clinical trial setting when comparing two cohorts (e.g., response vs non-response), recovers key pathways with 90% sensitivity and recovers 300-900 of the top differential genes by RNA-seq[1].
Tumor-specific Gene Expression	• Performance in lead indications observed at a median 0.81 Spearman correlation to matched tumor RNA-seq.

[1] Validated at 90% power; 300 genes in Phase I/II settings (n ~120, median 9% tumor fraction); 900 genes in Phase III settings (n ~600,median 5% tumor fraction)

TO LEARN MORE, VISIT

insight.precede.bio

The Precede Bio Insight™ assay is a research use only (RUO) product, which may be used for research and development purposes, to infer genome-wide transcriptional activity from cell-free DNA in plasma samples.

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