

oncosignal

Laboratory Developed Test

Patient Report



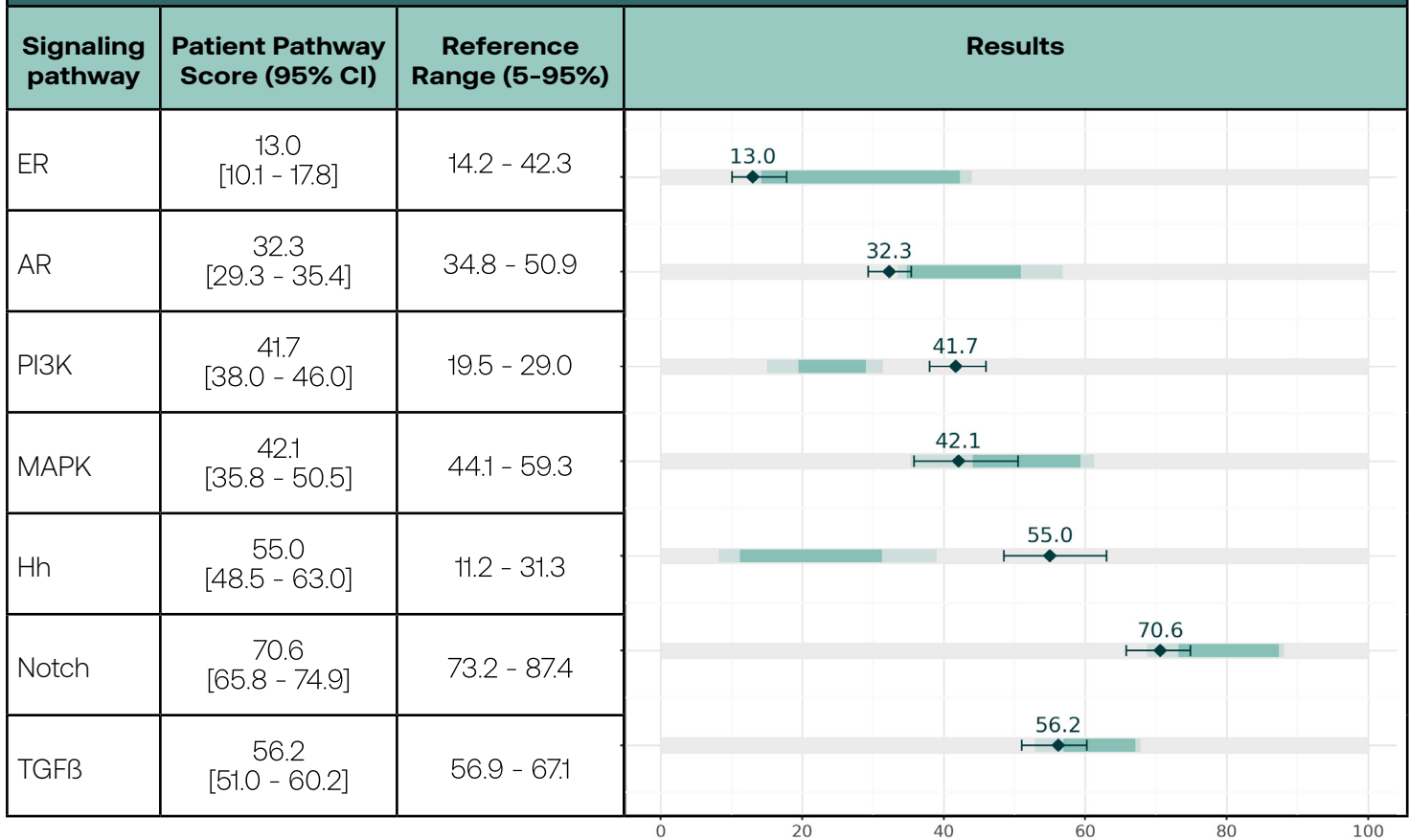
Patient / Sample info	Requester provider info
Submitting Diagnosis:	Name:
Name (last, first):	E-mail:
DOB (MM/DD/YYYY):	Telephone:
Pathology Accession #:	Facility name:
Specimen received (DD/MM/YYYY):	Street address:
Requisition number:	City / State / Zipcode:

OncoSIGNal pathway activity scores			
Signaling pathway	Patient Pathway Score (0-100)	Activity	Significance
Estrogen Receptor (ER)	13.0	Normal	
Androgen Receptor (AR)	32.3	Normal	
PI3K	41.7	HIGH	**
MAPK	42.1	Normal	
Hedgehog (Hh)	55.0	HIGH	**
Notch	70.6	Normal	
TGFβ	56.2	Normal	

* Patient pathway score is higher than 95% or lower than 5% percentile of reference range. ** Patient pathway score is higher than 99% or lower than 1% percentile of reference range

Clinical interpretation
<Insert text by Medical Doctor>

OncoSIGNal pathway activity scores



About the OncoSIGNal Results

The OncoSIGNal Breast LDT quantitatively measures functional activity of the Estrogen Receptor (ER) pathway, Androgen Receptor (AR) pathway, PI3Kinase (PI3K) pathway, MAPKinase (MAPK) pathway, Hedgehog (Hh) pathway, Notch pathway and TGFβ pathway.

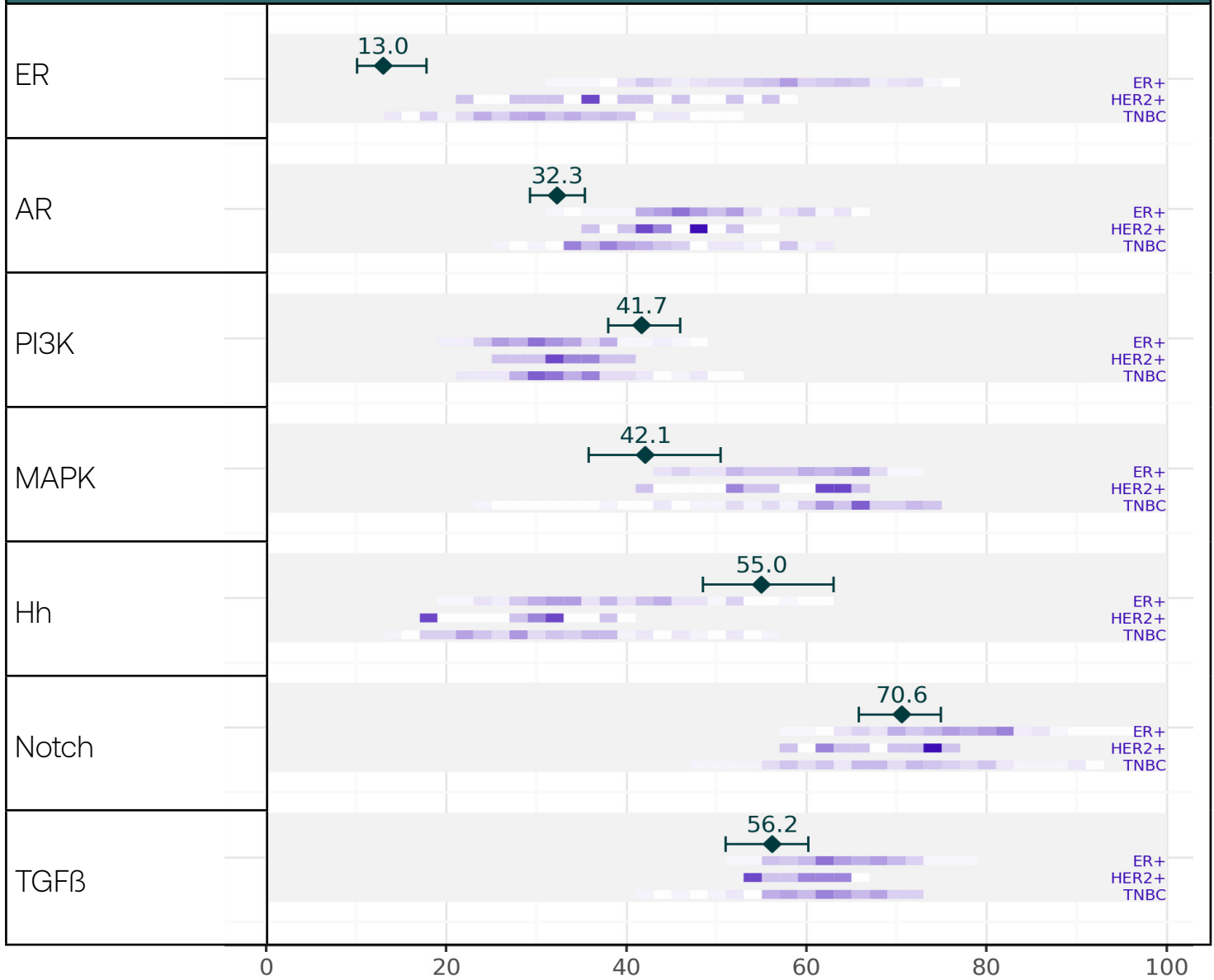
The test uses RT-qPCR to determine the mRNA expression of selected target genes of the pathway transcription factors, and a number of housekeeping genes for normalization and Quality Control. Computational algorithms translate the mRNA expression into an activity score for each pathway on a scale of 0-100. The PI3K pathway activity is derived from the inverse activity reading of the FOXO transcription factor. The MAPK pathway activity is derived from the activity reading of the AP1 transcription factor.

Reference ranges were determined by measuring the pathway activity in 22 ER negative tumors (for ER pathway activity) or 66 healthy epithelial breast tissue, and 5th-95th (dark shading) and 1st-99th (light shading) percentiles of the reference ranges are indicated. The 95% confidence interval (CI) of the patient pathway score represents the range in which 95% of technical replicates can be expected. If the total confidence interval of the patient pathway score is higher than the 95th percentile of the reference range, the pathway activity is called HIGH. If the total confidence interval of the patient pathway score is lower than the 5th percentile of the reference range, the pathway activity is called LOW. In all other cases the pathway score is called normal.

Results of laboratory tests can be affected by many factors including pre-analytic and analytical variables, shipping and handling and sample heterogeneity. The OncoSIGNal LDT was developed, and performance characteristics were determined, by InnoSIGN. The laboratory is regulated under the Clinical Laboratory Improvement Amendments of 1988 (CLIA) to perform high-complexity clinical testing. The OncoSIGNal LDT is not a standalone test, and the results of this test must always be interpreted within the clinical context, in accordance with standard medical practice, and in conjunction with other relevant data and should not be used alone for a diagnosis or treatment of malignancy.

Any questions related to the results and clinical interpretation of the OncoSIGNal LDT should be discussed with InnoSIGN's Medical Lab Director: Robert C. Babkowski MD, MMM, FCAP, robert.babkowski@innosignbio.com.

OncoSIGNal pathway activity scores



About the comparison to other breast cancer patients

In this graph the patient pathway activity scores with the 95% confidence interval are compared with the scores of other breast cancer patients prior to treatment.

Subtyping of patients was based on IHC staining. ER+: positive for staining of the estrogen receptor (n=89), HER2: positive for staining of the HER2 receptor (n=13), TNBC: triple-negative breast cancer (n=69).

The score distributions of the breast cancer subtypes are displayed as density heatmap (2D histogram), where the intensity represents the density of the distribution: the darker the purple, the higher the frequency of patients with this certain pathway score.