

Oncogene Mutations and Their Correlation with Serum Levels of Galectins -1, -3, and -9 in Breast Cancer Patients

Presented by
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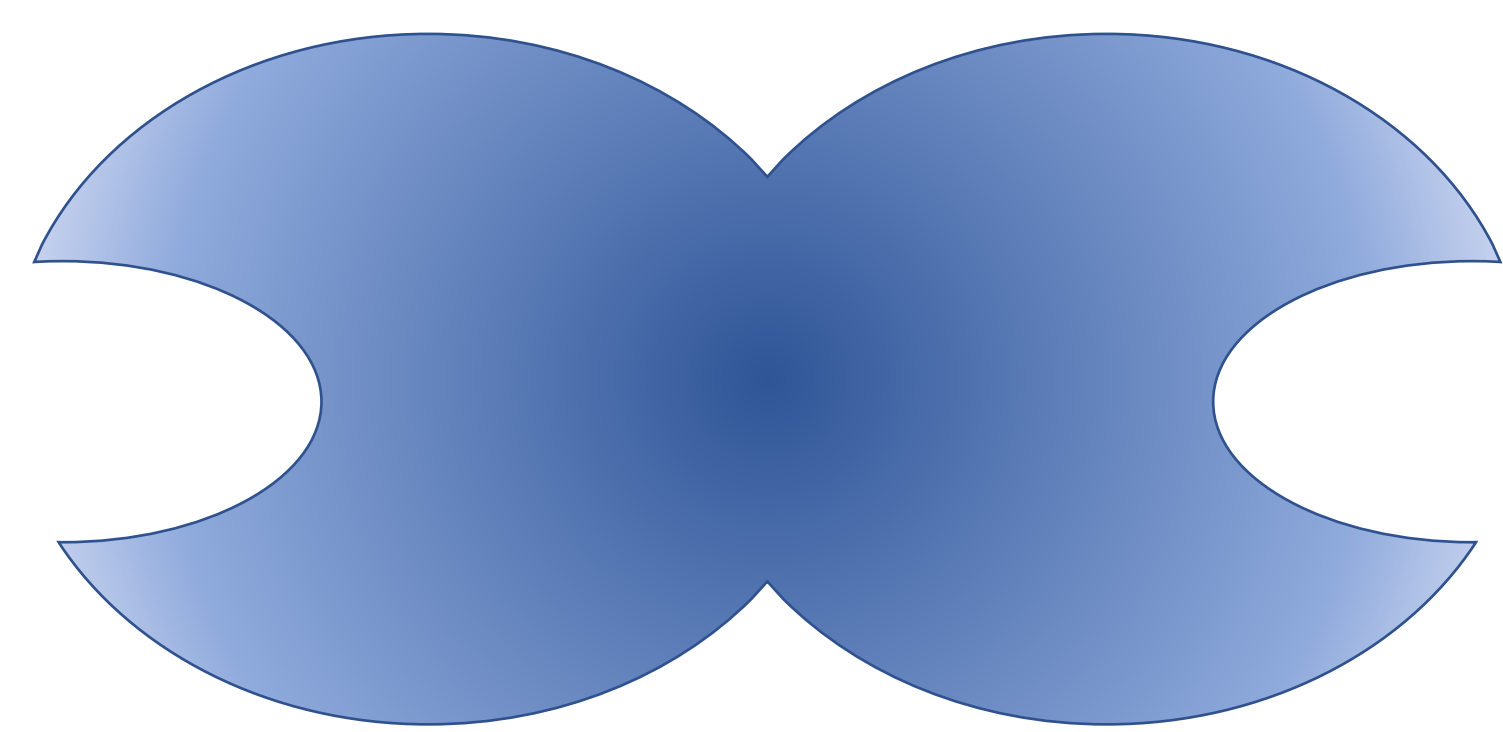
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Introduction

Galectins - members of the β -galactoside-binding protein family.

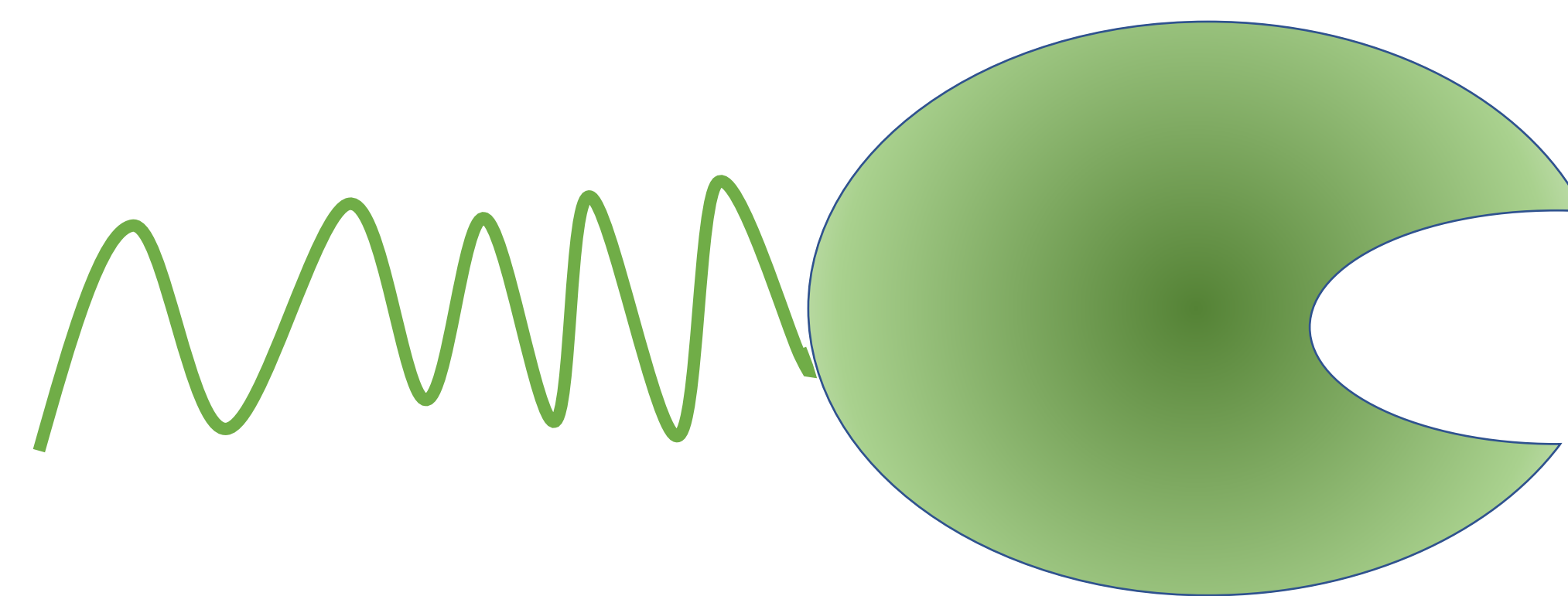
Prototype

-1, -2, -5, -7, -10, -11,
-13, -14, -15, -16



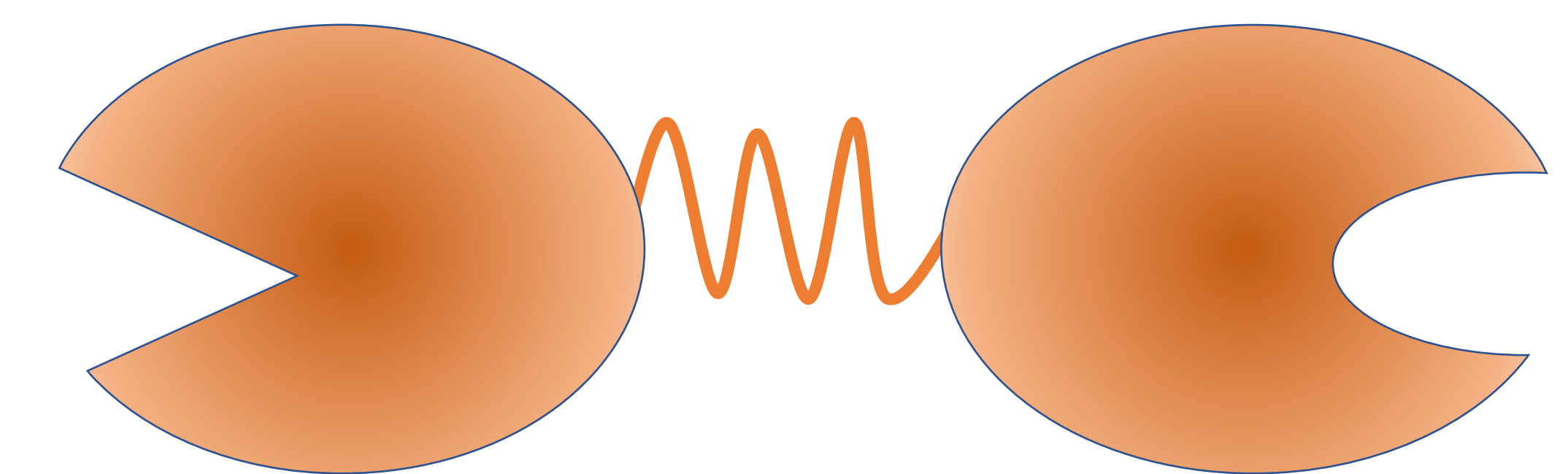
Chimeric

-3



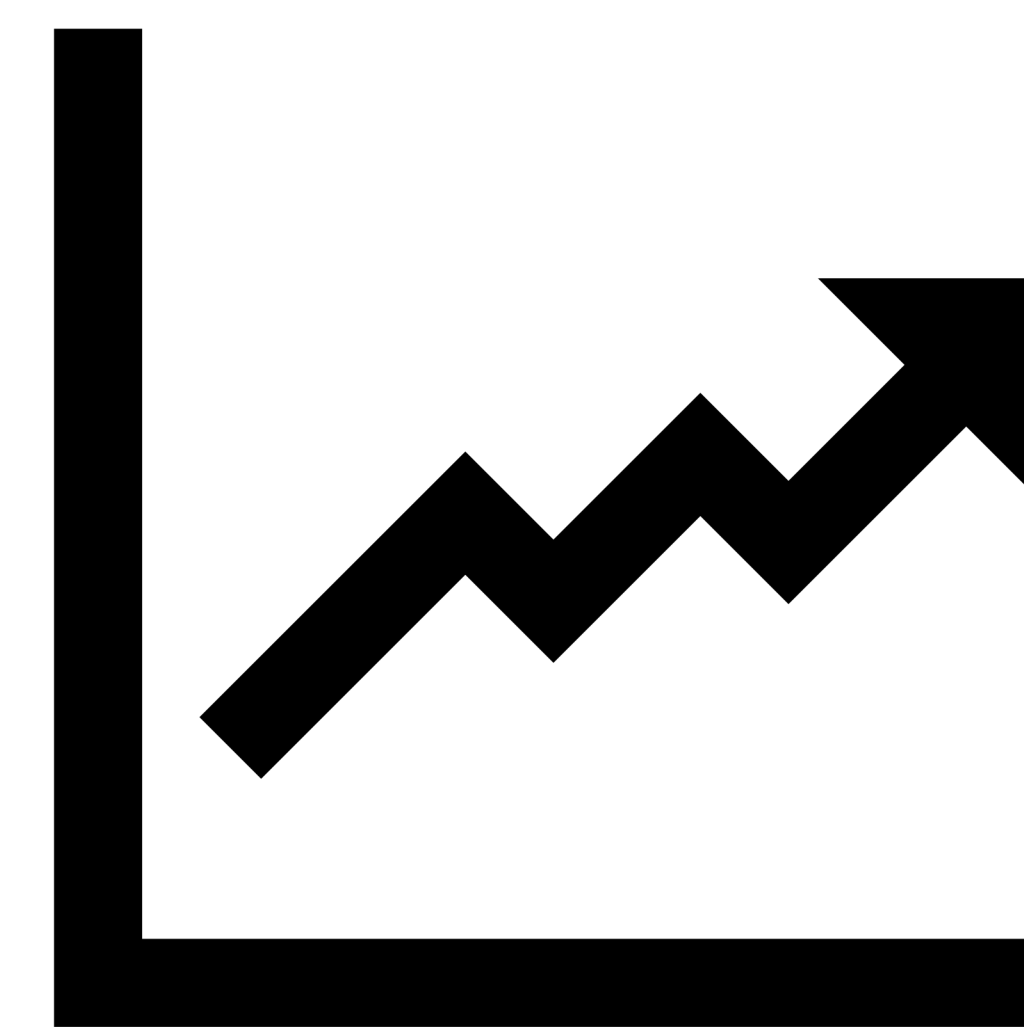
Tandem Repeat

-4, -6, -8, -9, -12



Galectins-1, -3, and -9 have been implicated in cancer progression, metastasis, and angiogenesis, as well as in modulating innate and adaptive immune responses.

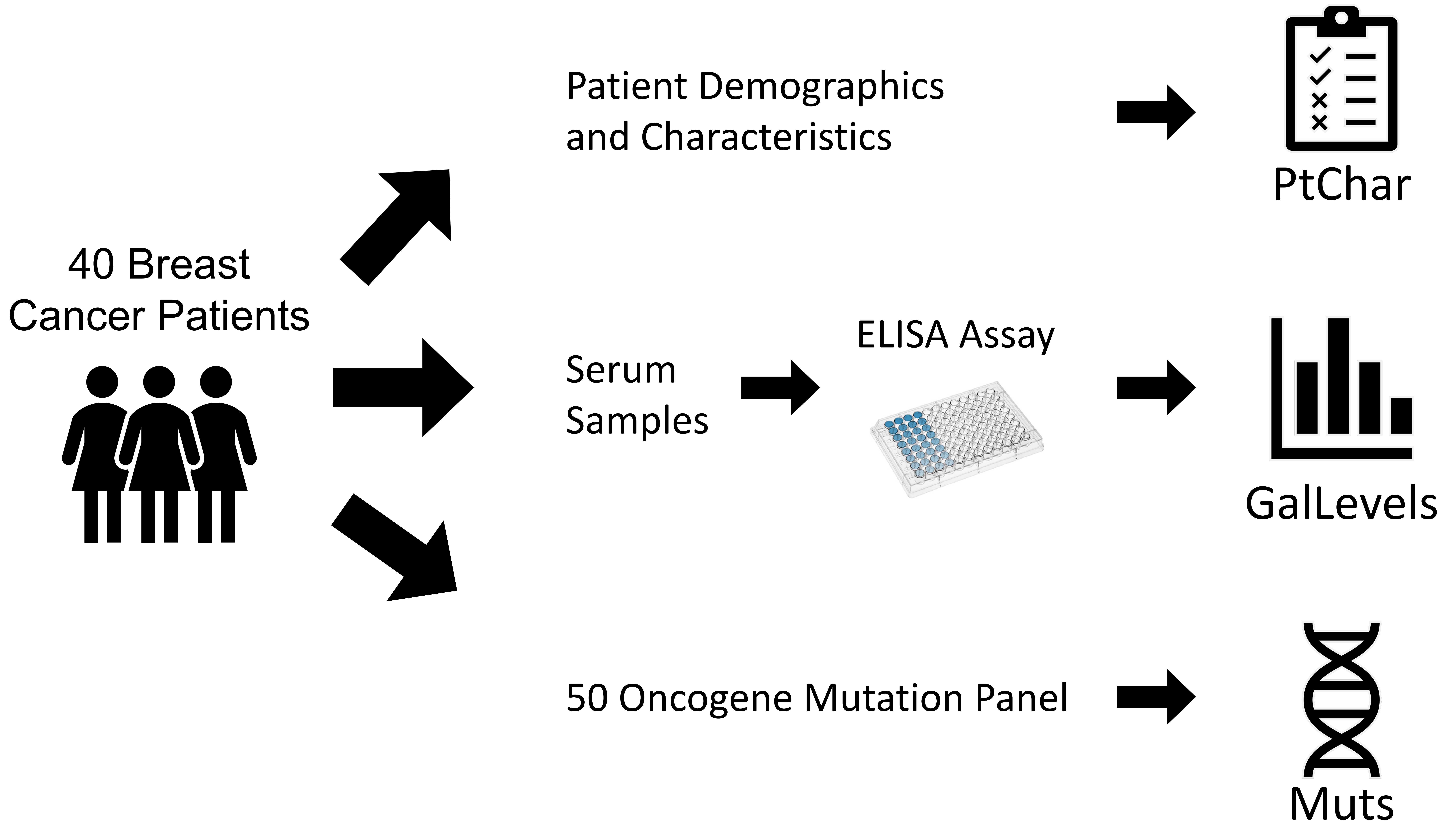
Serum galectin levels, especially -3, rise dramatically in cancer patients.



Q: Are there correlations between oncogene mutations and patient characteristics, including galectin profiles?

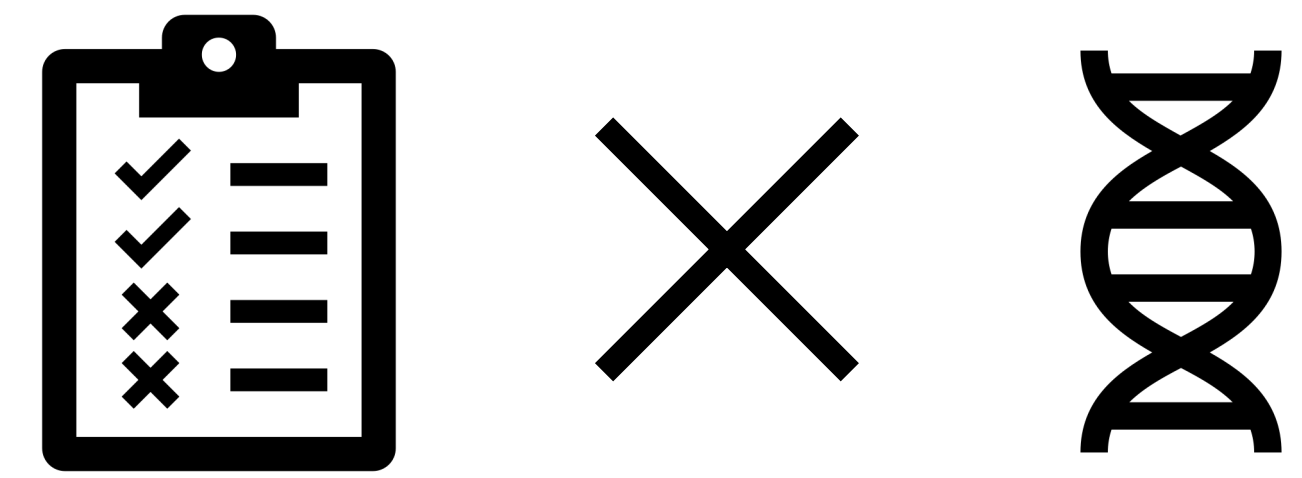
Methods

Q: Are there correlations between oncogene mutations and patient characteristics, including galectin profiles?

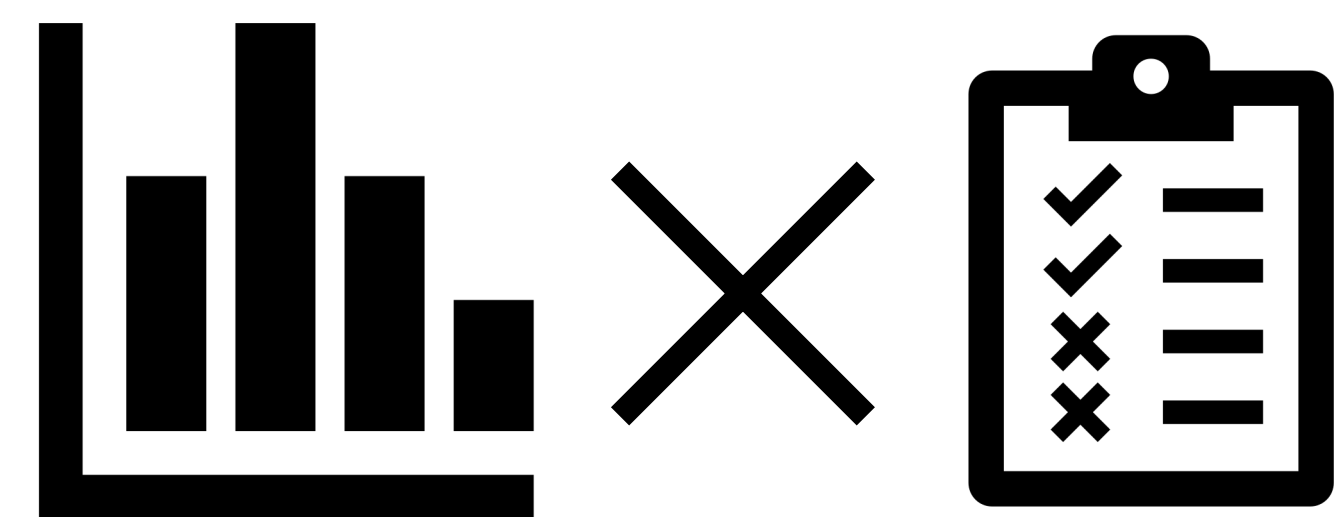


Results

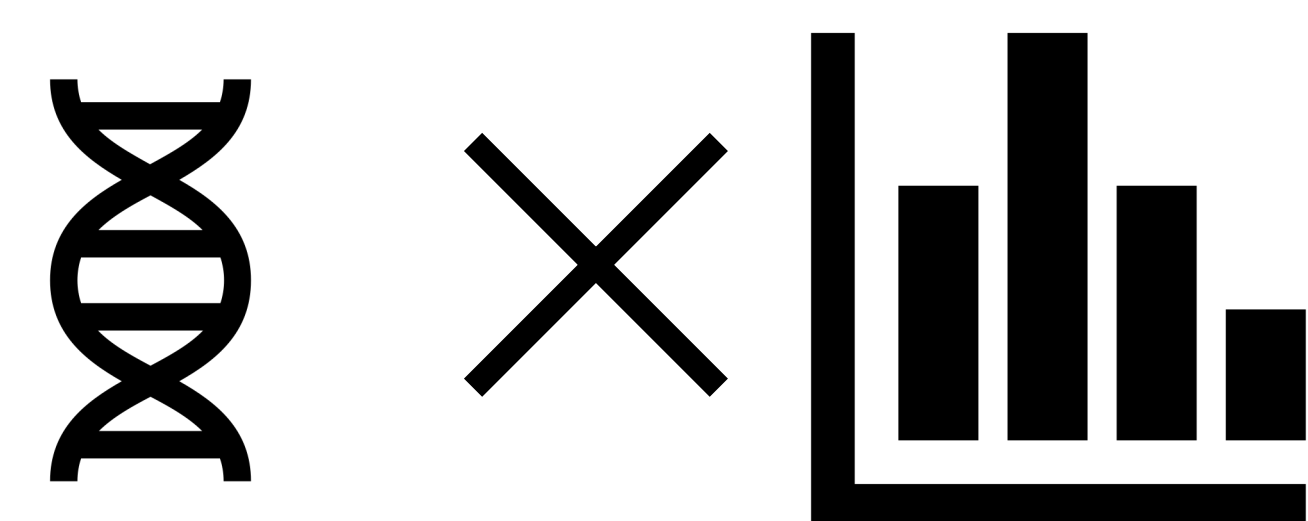
Q: Are there correlations between oncogene mutations and patient characteristics, including galectin profiles?



- A PIK3CA mutation is associated with high BMI.
- A JAK mutation is associated with very high BMI.
- A KIT mutation is more associated with Invasive Ductal Histology.
- A KIT mutation is associated with a higher number of mutations.



- Galectin-3 is elevated in brain tissue sites.
- Galectin-1 mildly increases with BMI.
- Galectins show no variation by stage.



- A KIT mutation is associated with higher Gal-3 and -9 serum levels.
- A PIK3CA mutation is associated with higher Gal-3 serum levels.
- An FLT3 mutation is associated with normal Gal-1 and -9 levels.

Results

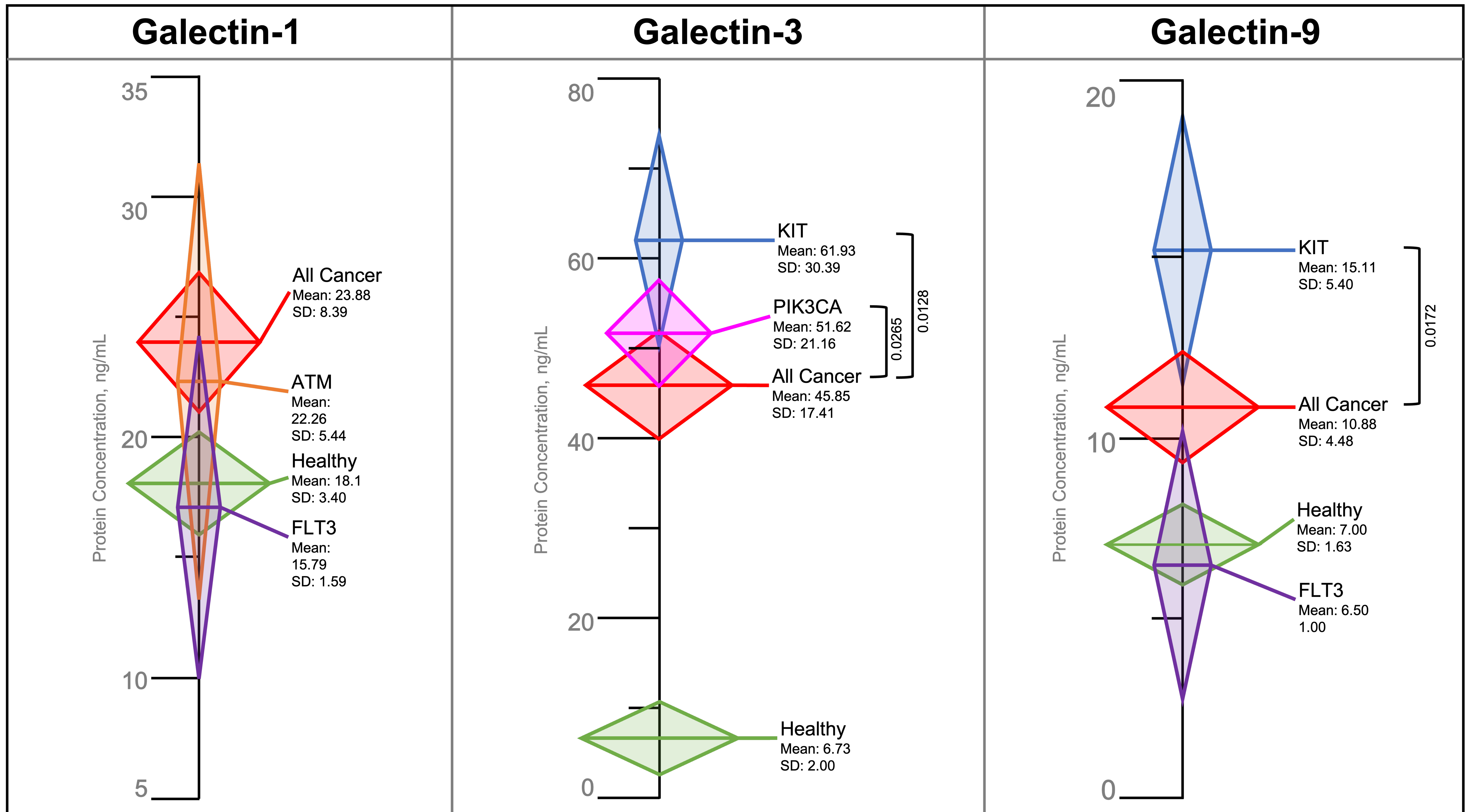


Figure 1. Galectin Serum Levels of Breast Cancer Patients with Gene Mutations

The diamonds represent galectin serum level means and 95% confidence intervals of healthy patients (green), breast cancer patients (red) or breast cancer patients with a mutation in the ATM (orange), FLT3 (purple), KIT (blue), or PIK3CA (pink) genes.

Conclusions

- Further investigation of the KIT gene and protein product and its interactions with galectins.
 - The p.Met541Leu mutation has been found to be associated with significant increases in galectin-3.
- Further investigation of the FLT3 gene and protein product and its interactions with galectins.
- Increase the scope by looking at liver and colon cancer patients.

Acknowledgments

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