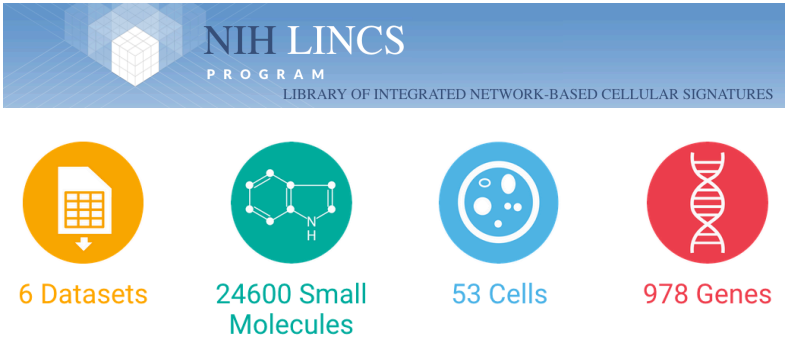


Learning drug-perturbed data

Goal: deep learn drug responses and predict new drug indications (drug repositioning)

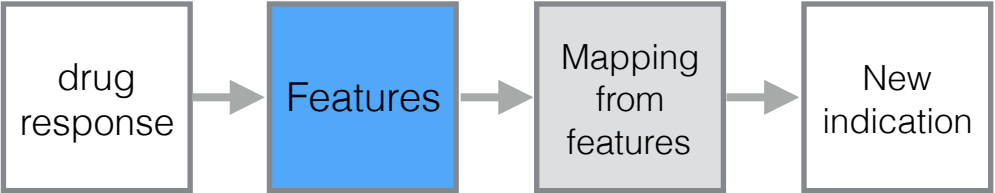
Data overview



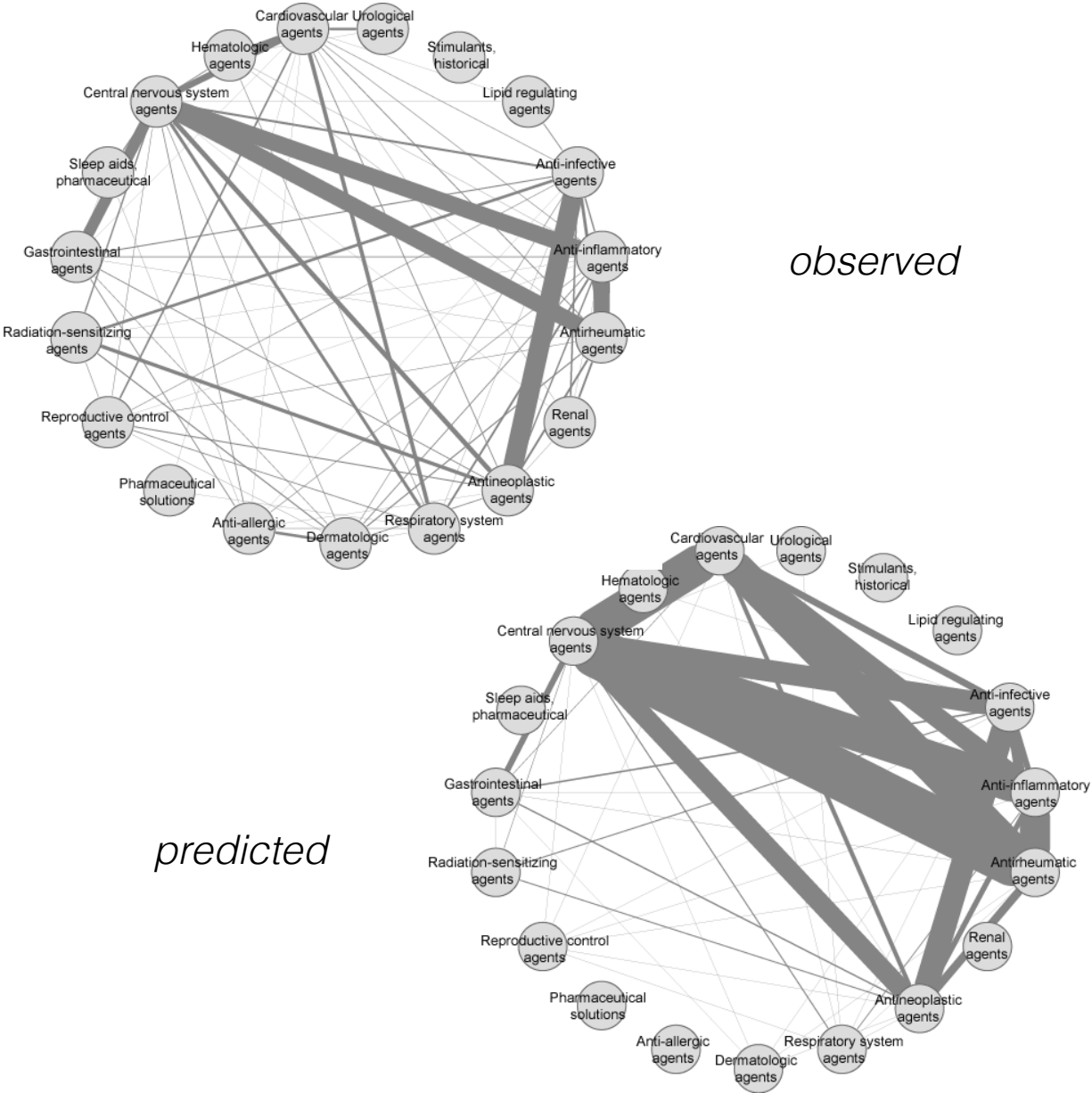
1240 compounds
(19 therapeutic use)

...

978 landmark gene expression levels
measured in 1,328,098 examples



Ongoing result



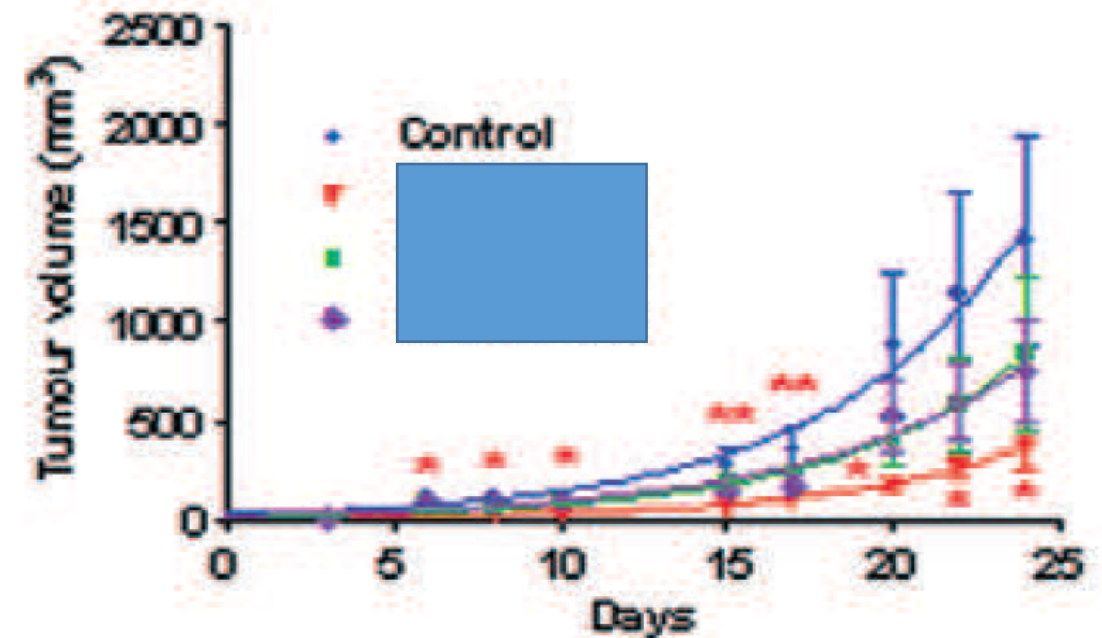
For Drugs X and Y

Indication : Asthma, COPD treatment

StandigmAI says

“ It may work as antineoplastic drug.”

Proven in in-vivo experiments!



British Journal of Pharmacology (2012) 166 721–736

[Br J Pharmacol. 2012 May;166\(2\):721-36. doi: 10.1111/j.1476-5381.2011.01791.x.](#)

Involvement of α_2 - and β_2 -adrenoceptors on breast cancer cell proliferation and tumour growth regulation.

[Pérez Piñero C¹](#), [Bruzzone A](#), [Sarappa MG](#), [Castillo LF](#), [Lüthy IA](#).

For Drug Z

Indication : CML (Chronic myelogenous leukemia)

StandigmAI says

“ It may improve pulmonary function.”

Proven in in-vivo experiments!

[PLoS One](#). 2016 Jan 20;11(1):e0147005. doi: 10.1371/journal.pone.0147005. eCollection 2016.

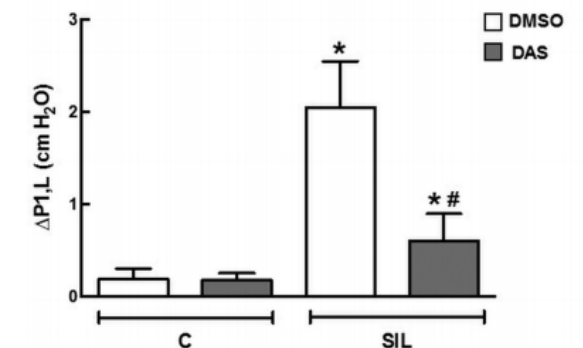
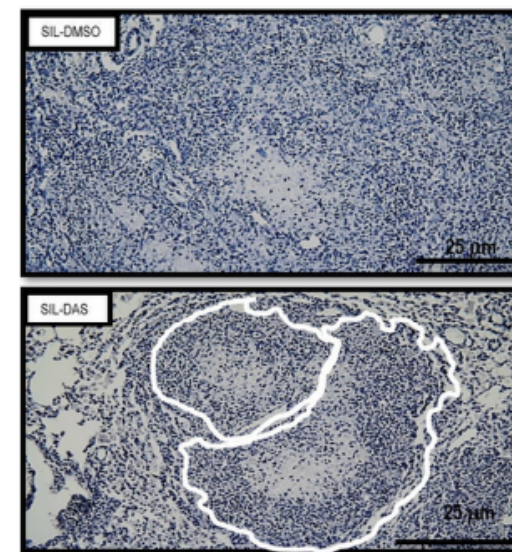
Dasatinib Reduces Lung Inflammation and Fibrosis in Acute Experimental Silicosis.

[Cruz FF](#)¹, [Horta LF](#)¹, [Maia Lde A](#)¹, [Lopes-Pacheco M](#)^{1,2}, [da Silva AB](#)^{1,2}, [Morales MM](#)², [Gonçalves-de-Albuquerque CF](#)³, [Takiya CM](#)⁴, [de Castro-Faria-Neto HC](#)³, [Rocco PR](#)¹.

[Growth Factors](#). 2015;33(5-6):366-75. doi: 10.3109/08977194.2015.1109511. Epub 2015 Nov 25.

Dasatinib attenuated bleomycin-induced pulmonary fibrosis in mice.

[Yilmaz O](#)¹, [Oztay F](#)¹, [Kayalar O](#)¹.



PLoS One. 2016 Jan 20;11(1):e0147005.