

PathAct

In silico modulation of signal transduction

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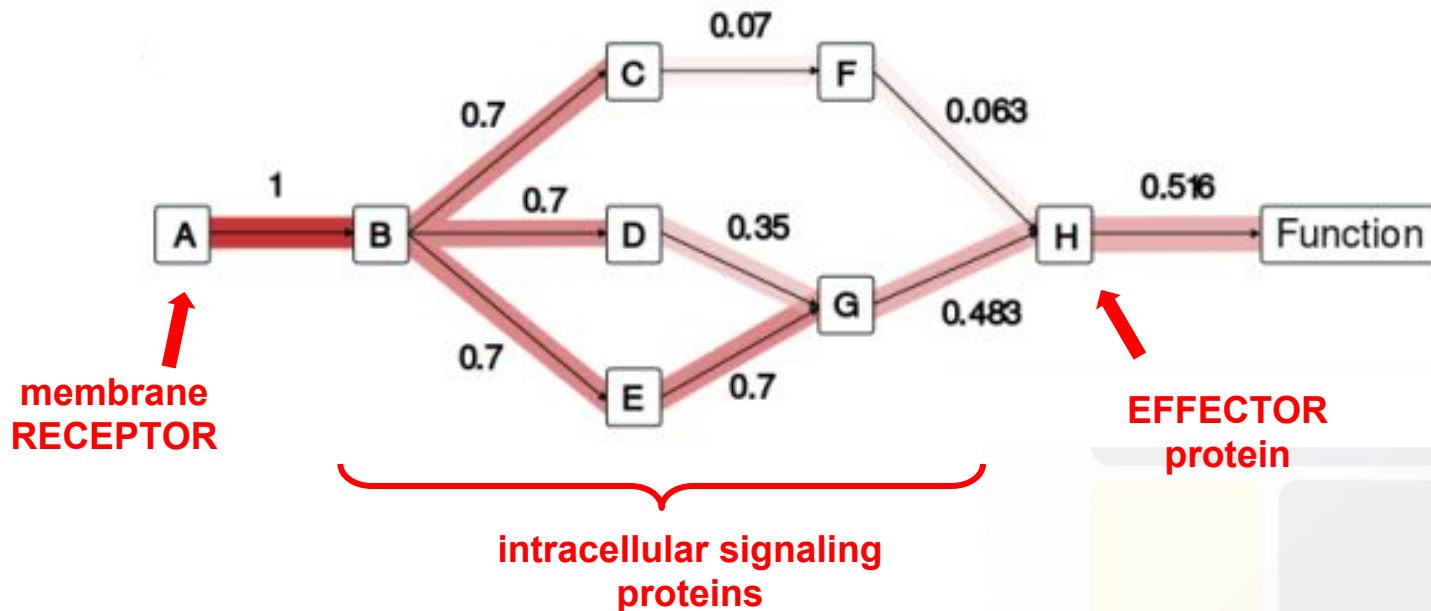
GDA
International Course on
Genomic **D**ata **A**nalysis



PRINCIPE FELIPE
CENTRO DE INVESTIGACION

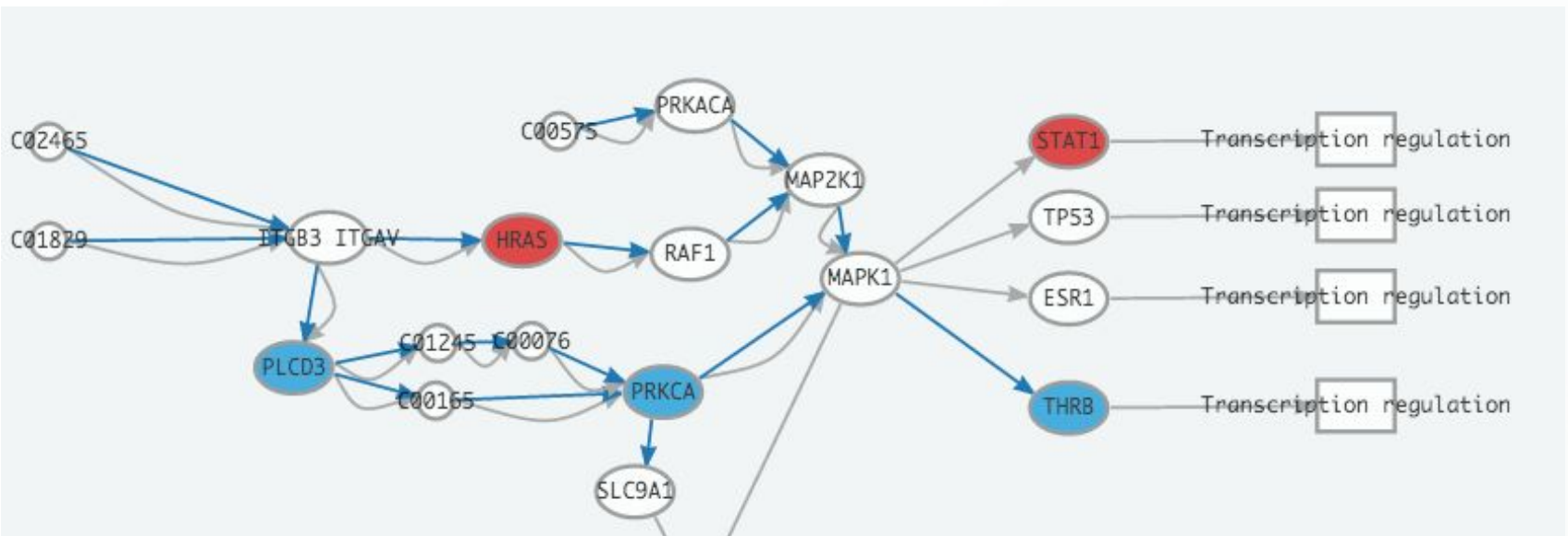
Signal transduction modelling

In our model, signal transduction is usually modulated through all nodes between a membrane receptor and an effector protein



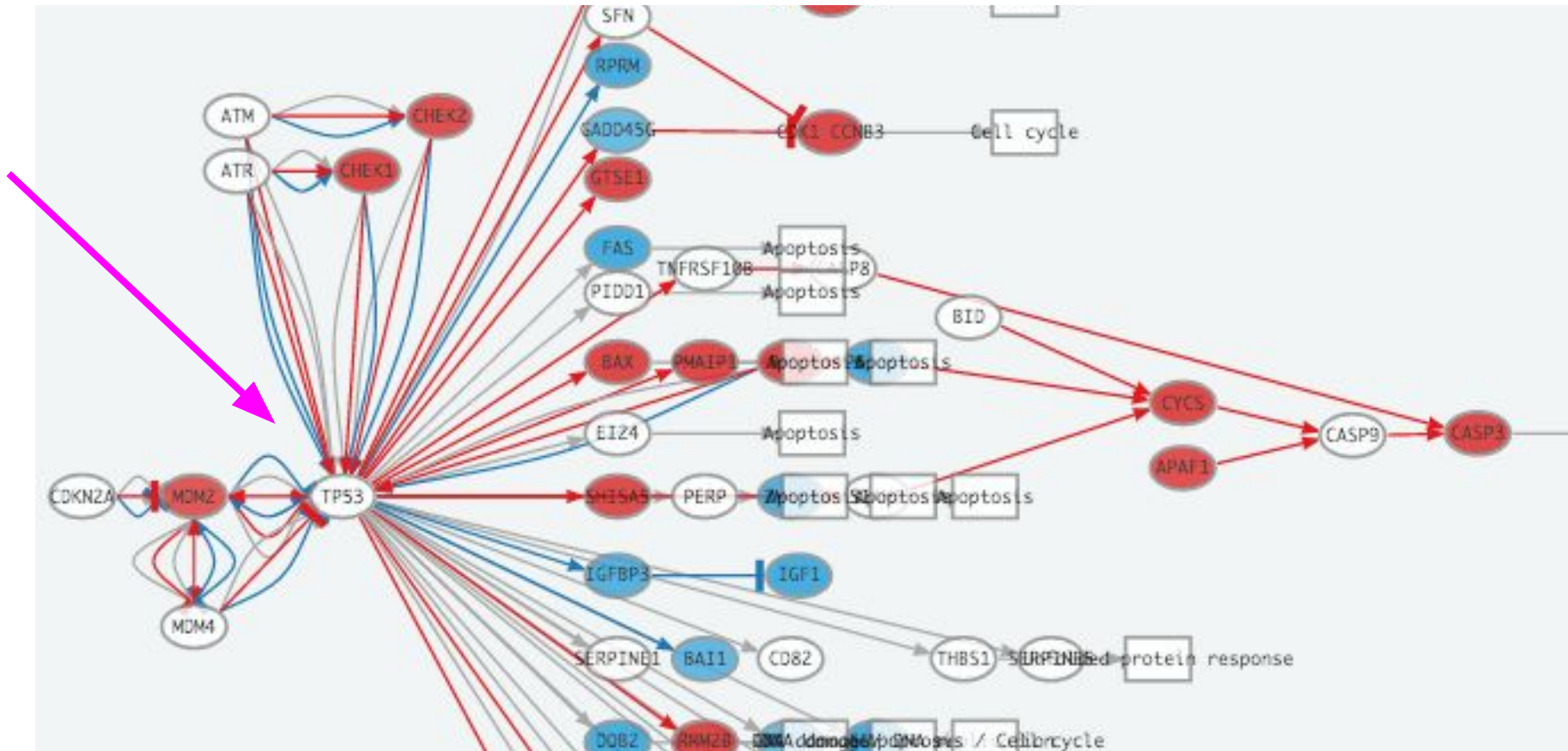
Signal transduction modelling

This **systemic approach** allow us to detect which signaling cascades (or cellular functions) are impaired in a given disease, even when patients are heterogeneous



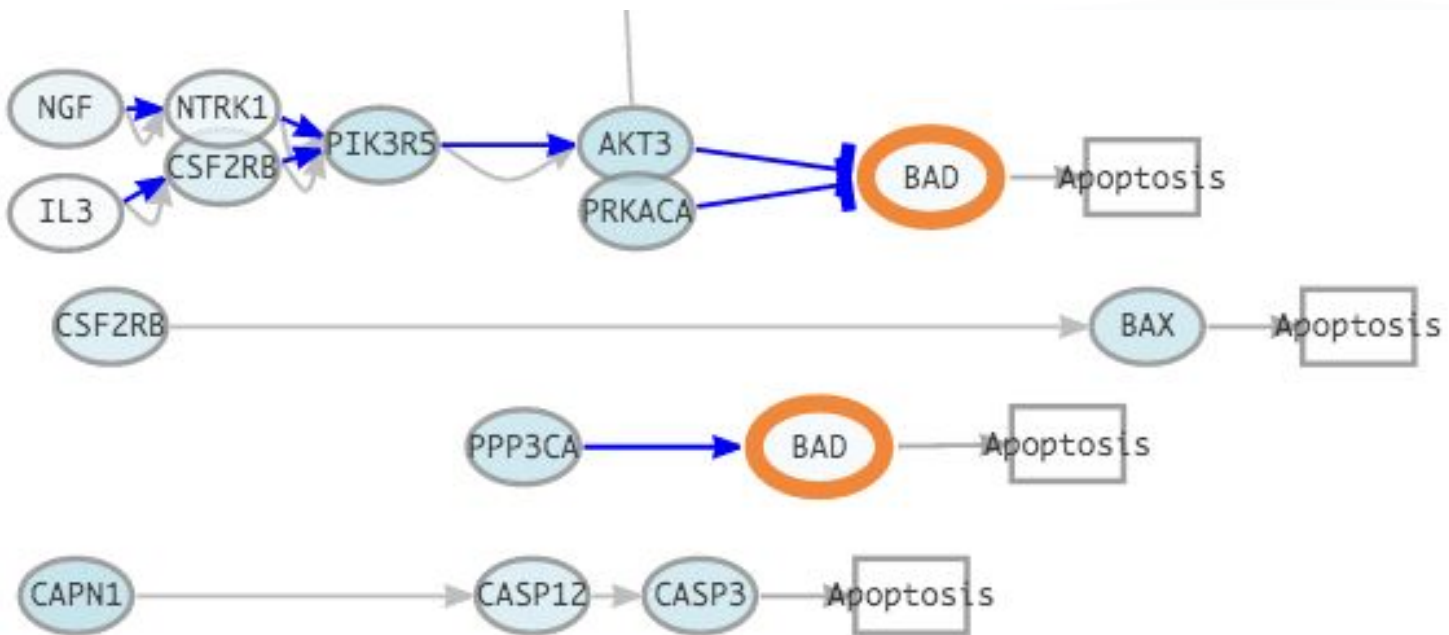
Signal transduction modelling

In a single signaling cascade not all genes weight the same (essential vs non-essential genes)



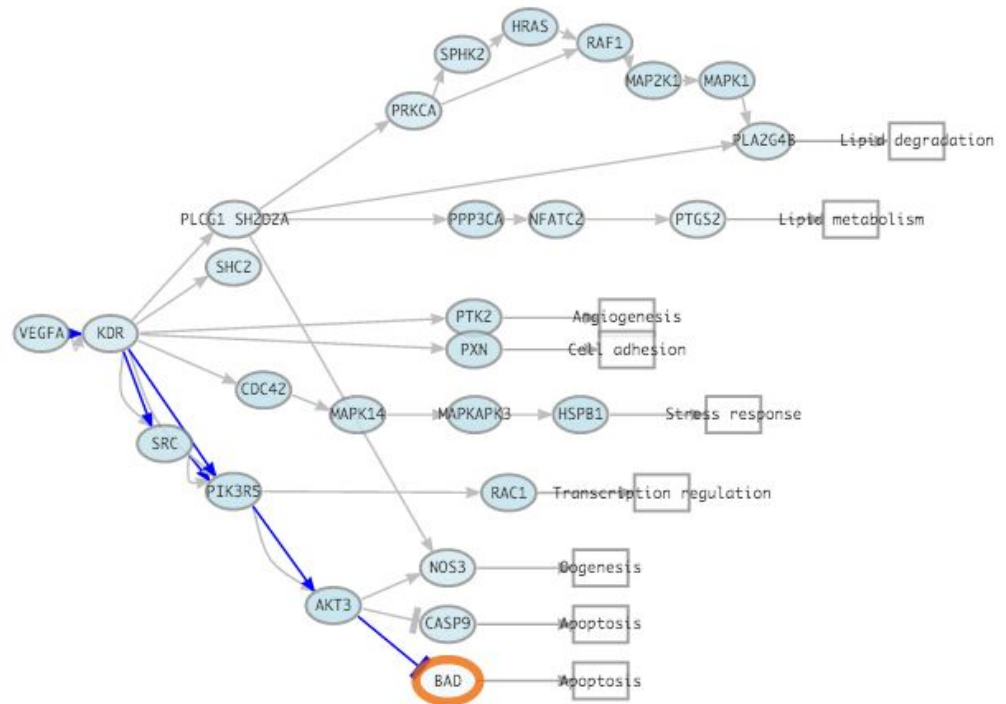
Signal transduction modelling

We can use the same machinery **to virtually explore the consequences of knocking out (or overexpress) a gene** in signal transduction.



Signal transduction modelling

This approach offers a powerful framework to design targeted therapies with minimum resources



Signal transduction modelling

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PathAct Actionable pathway workshop



PathAct

ACTIONABLE PATHWAY WORKSHOP

 Start

PathAct is a web tool that enables the study of the consequences that

PathAct
Created by Computational Genomics Department
Principe Felipe Research Center, Valencia, Spain
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