

Quick Start Guide

Last updated: December 13th, 2018

Overview

Welcome to the NDEx Documentation! This welcome page contains a short guide to get you started with NDEx. In addition, detailed manuals and other technical documentation can be accessed using the blue **Docs Navigation Bar** above: the menu is conveniently organized in "categories" and each category is a dropdown element that provides access to specific documents. In all those cases where documents are hosted externally, links are provided.

Please Contact Us ([../contact-us/](#)) if you find issues in the NDEx documentation or would like to suggest any improvements.

Searching for Networks, Users and Groups

The NDEx Public Server includes a large number of networks that are marked "PUBLIC" and therefore accessible without signing in to a user account. Public networks can be found, viewed, and queried anonymously using the search bar on the NDEx landing page (<http://ndexbio.org>).

- The NDEx Search function has been improved to search for networks, users and groups at the same time. For example, type **cell cycle** into the search box and click the magnifying glass or press enter:
- The search results page is displayed below and lists several public networks. Users and groups are shown in separate tabs. Hover on a network's name to display a pop up window with its description (when available).
- You can also explore the entire server content using the new "Browse" button.
- Finally, the "Search Examples" button has several examples of many different type of searches you can perform in NDEx and, most importantly, provides a direct link to our Advanced Search documentation.

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Networks (847) Users (5) Groups (6)

Network Name	Ref.	Disease	Tissue	Nodes	Edges	Visibility	Owner	Last Modified
Cell cycle: G1/S phase transition				25	90	PUBLIC Q	signor	12/3/18 5:52 PM
Cell cycle: G2/M phase transition				38	151	PUBLIC Q	signor	12/3/18 5:52 PM
Rhabdomyosarcoma				39	205	PUBLIC Q	signor	12/3/18 5:53 PM
Prostate Cancer				26	76	PUBLIC Q	signor	12/3/18 5:53 PM
Luminal Breast Cancer				32	158	PUBLIC Q	signor	12/3/18 5:53 PM
Pathways Affected Luminal Breast Cancer					2953	PUBLIC Q	mgdb	7/18/17 4:22 PM
TCGA-ACC [miRNA v					681	PUBLIC Q	ucsdccb	7/14/17 1:24 PM
TCGA-DLBC [miRNA					87	PUBLIC Q	ucsdccb	7/14/17 1:30 PM
TCGA-UVM [miRNA v					75	PUBLIC Q	ucsdccb	7/14/17 1:53 PM
TCGA-READ [miRNA					23	PUBLIC Q	ucsdccb	7/14/17 1:42 PM

Total Items: 847

Luminal Breast Cancer
Breast cancer is the most frequently occurring cancer in women in the developed world, with oestrogen receptor (ER)-positive disease representing around two-thirds of all cases. In this model we focus on ER-positive/HER2-negative breast cancer who results from mutations in four main signalling pathways: 1)PI3K/AKT/mTOR pathway; 2)cyclin D1 complex/Rb/E2F pathway; 3)TP53/MDM2 pathway; and 4) FGFR1 pathway. Genes from the PI3K/AKT/mTOR pathway are the most frequently mutated in luminal breast cancer; PI3K mutations are the most prevalent mutations and are identified in around 40% of cases; In luminal tumours, inhibition of the Rb protein is mediated through CCND1 (the gene coding for cyclin D1) or CDK4 amplification or overexpression, or loss of the endogenous CDK inhibitors (CDKN2A), these mutations prevent the inactivation of the E2F transcription factor, thus leading to cell cycle progression from G1 to S phase. The TCGA showed amplification of CCND1 in 29% of patients with...

- Now, click on any public network to view it: let's choose "Cell cycle: G1/S phase transition"... In the network display page, information about the network is displayed in the info panel on the right.
- You can scroll down to view all information in this section, including the network description, reference info and various network properties (if any are available).
- You can always switch to a tabular view using the **Table** button in the bottom right part of the page. Once toggled, that same button allows you to go back to the graphic view.

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Network Info Nodes/Edges

Cell cycle: G1/S phase transition

Nodes: 25 Edges: 90
PUBLIC Q Read Only [Copy URL](#)
@context: view namespaces

Owner: Signor Database
Created: Mar 2, 2018 1:17:25 PM
Last Modified: Dec 3, 2018 5:52:58 PM
UUID: 1af7be3b-1e5f-11e8-b939-0ac135e8bacf
Format: Unknown

Description: Cell cycle progression is a tightly regulated process that depends on the expression and activation of positive and negative regulators of the cell cycle machinery. The primary G1/S cell cycle checkpoint controls the commitment through the G1 phase to enter into the DNA synthesis S phase. Before the passage of the restriction point, activation of CCND- and CCNE-dependent CDKs initiates a sequence of events that eventually leads to the initiation of a full cell cycle. Under favorable growth conditions, CDK4/6 associate with CCNDs, phosphorylate and inactivate PRB, allowing the release of E2F and the

Query Terms (i.e., AKT1 or WNT*) Type: 1-step neighborhood Run Query

Open in Cytoscape Table Log in

Running a Query

- To run a query on this network, use the text box in the query controls indicated by the red arrow.
- You can enter one or more terms to query the network and choose from 4 different types of query.
- For example, type **akt**, select **1-step neighborhood** and click the **Run Query** button: the query will find a neighborhood around all nodes that reference the akt term.

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akt Type: 1-step neighborhood Run Query

Open in Cytoescape Table Log in

- As shown in the image below, the query has retrieved a subnetwork, a small neighborhood consisting of "5 nodes" and "13 edges".
- Additional useful information (such as citations) can be obtained by selecting individual or multiple nodes and edges.

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Network Info Nodes/Edges

Selected Edges: 1

- AKT up-regulates activity MDM2

MECHANISM: phosphorylation
 RESIDUE: Ser188
 SEQUENCE: RKRHKSDsISLSFDE
 TISSUE_DATA:
 BTO:0000671

DIRECT: YES
 ANNOTATOR: lperfecto
 SENTENCE: Stabilization of mdm2 via decreased ubiquitination is mediated by protein kinase b/akt-dependent phosphorylation here we show that pkb inhibits mdm2 self-ubiquitination via phosphorylation of mdm2 on ser(166) and ser(188)
 citation:
[pubmed:15169778](#)

Back To Original Network Open in Cytoescape Download Result Table