

# BioProfiler機能

- 分子と疾患、機能との関連性を簡単に導きだします。
- 例えば「homozygous」「knockout」された「mouse」で「cholestasis（胆汁うっ滞）」が「increase」させる「transporters」をフィルターすることができます。
- BioProfilerはIngenuityの疾患、表現形、プロセスに従来にない形でアクセスでき、興味のある疾患や表現形に対する的確な検索を行うことができます。

# BioProfiler機能

- Genes & Chemicalsで検索後チェックボックスにチェックを入れ「BIOPROFILER」をクリックします

The search for ppar matched 7 items.

<input type="checkbox"/>	Symbol	Matched Term	Synonym(s)	Entrez Gene Name	Location	Type(s)	View/O	Biomarker Ap	Drug(s)	Target(s)	Species
<input checked="" type="checkbox"/>	PPARA	PPAR, PPAR alpha	4933429D07Rik, AI118064, AW742785, hPPAR, MGC2452, NR1C1, peroxisome proliferator-activated receptor alpha, PPAR, PPAR alpha, PPAR $\alpha$ , SC22CB-5E3.5	peroxisome proliferator-activated receptor alpha	Nucleus	ligand-de	Reagen Interac	diagnosis	choline fenofib, aleglitazar, choline fenofib ezetimibe/fen NS-220, tesaglitazar, bezafibrate, clofibrate, fenofibrate, docosahexaer gemfibrozil		Human, Mouse, Rat
<input checked="" type="checkbox"/>	PPARD	PPAR beta/delta, PPAR $\beta$ /delta, PPAR [b]	FAAR, NR1C2, NUC-1, NUCI, NUCII, peroxisome proliferator-activated receptor delta, PPAR beta/delta, PPAR $\beta$ /delta, PPAR-beta, PPAR-delta, PPAR- $\beta$ , PPARB, Pparb/d,	peroxisome proliferator-activated receptor delta	Nucleus	ligand-de	Reagen Interac	diagnosis	treprostinil, icosapent, GW501516, bezafibrate		Human, Mouse, Rat

# BioProfiler機能

- Functions & Diseasesで検索後チェックボックスにチェックを入れ「BIOPROFILER」をクリックします

The screenshot shows the BioProfiler web interface. At the top, there is a search bar and a navigation menu with buttons: 'ADD TO MY PATHWAY', 'ADD TO MY LIST', 'ANNOTATIONS', 'SHOW FINDINGS', 'SHOW FUNCTIONS', 'EXPAND FUNCTIONS', and 'BIOPROFILER'. The 'BIOPROFILER' button is highlighted with a red box. Below the navigation menu, a message states: 'The search for cholestasis matched 44 functions and diseases.' The main content area is titled 'Functions & Diseases' and contains a table with two columns: 'Matching Functions & Diseases' and 'Associated Molecules'. The table lists various cholestasis-related terms with their corresponding molecule counts. The 'Liver Cholestasis' row is highlighted in blue, and its sub-items are also highlighted. The 'BIOPROFILER' button is highlighted with a red box.

Matching Functions & Diseases	Associated Molecules
<input type="checkbox"/> Matching Functions & Diseases	213
<input checked="" type="checkbox"/> Liver Cholestasis	205
<input checked="" type="checkbox"/> cholestasis	169
<input checked="" type="checkbox"/> cholestasis	169
<input checked="" type="checkbox"/> intrahepatic cholestasis	82
<input checked="" type="checkbox"/> intrahepatic cholestasis	82
<input checked="" type="checkbox"/> intrahepatic cholestasis of acinar zone 3	1
<input checked="" type="checkbox"/> progressive intrahepatic cholestasis	62
<input checked="" type="checkbox"/> progressive intrahepatic cholestasis [progressive familial intrahepatic cholestasis,familial intrahepatic cholestasis]	62
<input checked="" type="checkbox"/> progressive familial intrahepatic cholestasis type 1	60

# BioProfiler機能

- Datasetを開き「Analyze/filter dataset>BioProfiler」をクリックします

Annotated Dataset: Heart Failure

Preview Dataset Heart Failure Observation: Fold change([Idiopathic] vs [Non-failing]) (1650)

Mapped IDs (1965) Unmapped IDs (289) All IDs (2254)

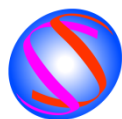
ADD TO MY PATHWAY ADD TO MY LIST CREATE DATASET CUSTOMIZE TABLE Rows: 1 - 100

<input type="checkbox"/>	Fold Change	ID	Notes	Symbol	Entrez Gene Name	Location	Type(s)	Drug(s)
<input type="checkbox"/>	↓-2.752	219488_at		A4GALT	alpha 1,4-galactosyl transferase	Cytoplasm	enzyme	
<input type="checkbox"/>	↑1.553	239185_at		ABCA9	ATP-binding cassette subfamily A member 9	Cytoplasm	transporter	
<input type="checkbox"/>	↑1.097	1554878_a_at		ABCD3	ATP-binding cassette subfamily D member 3	Cytoplasm	transporter	
<input type="checkbox"/>	↑2.386	209735_at		ABCG2	ATP-binding cassette subfamily G member 2	Plasma Membrane	transporter	
<input type="checkbox"/>	↑1.189	228123_s_at		ABHD12	abhydrolase domain containing 12	Other	enzyme	
<input type="checkbox"/>	↓-1.129	220285_at		ABHD17B	abhydrolase domain containing 17B	Other	peptidase	
<input type="checkbox"/>	↑1.062	205566_at	D	ABHD2*	abhydrolase domain containing 2	Other	enzyme	
<input type="checkbox"/>	↑1.338	87100_at	D	ABHD2*	abhydrolase domain containing 2	Other	enzyme	
<input type="checkbox"/>	↓-1.443	218739_at		ABHD5	abhydrolase domain containing 5	Cytoplasm	enzyme	
<input type="checkbox"/>	↑2.465	223395_at		ABI3BP	ABI family, member 3 binding protein	Extracellular Space	other	
<input type="checkbox"/>	↓-1.105	210461_s_at		ABLIM1	actin binding LIM domain containing 1	Cytoplasm	other	
<input type="checkbox"/>	↓-1.494	214671_s_at		ABR	active BCR-related protein	Cytoplasm	other	
<input type="checkbox"/>	↓-1.369	202002_at		ACAA2	acetyl-CoA acyltransferase 2	Cytoplasm	enzyme	
<input type="checkbox"/>	↓-1.851	214584_x_at	D	ACACB*	acetyl-CoA carboxylase beta subunit	Cytoplasm	enzyme	
<input type="checkbox"/>	↓-2.123	221928_at	D	ACACB*	acetyl-CoA carboxylase beta subunit	Cytoplasm	enzyme	

Notes:  
"D" - Duplicates. Gene/Protein/Chemical identifiers marked with an asterisk indicate that multiple identifiers in the dataset refer to the same gene/chemical in the Global Molecular Network.  
"O" - Override molecules. Gene/Protein/Chemical identifiers marked as "Override" are displayed with italic text.  
"A" - Gene/Protein/Chemical ID marked as Absent. The gene/protein/chemical will not be used as a focus molecule in the analysis. You can explicitly override this flag with the Override column.

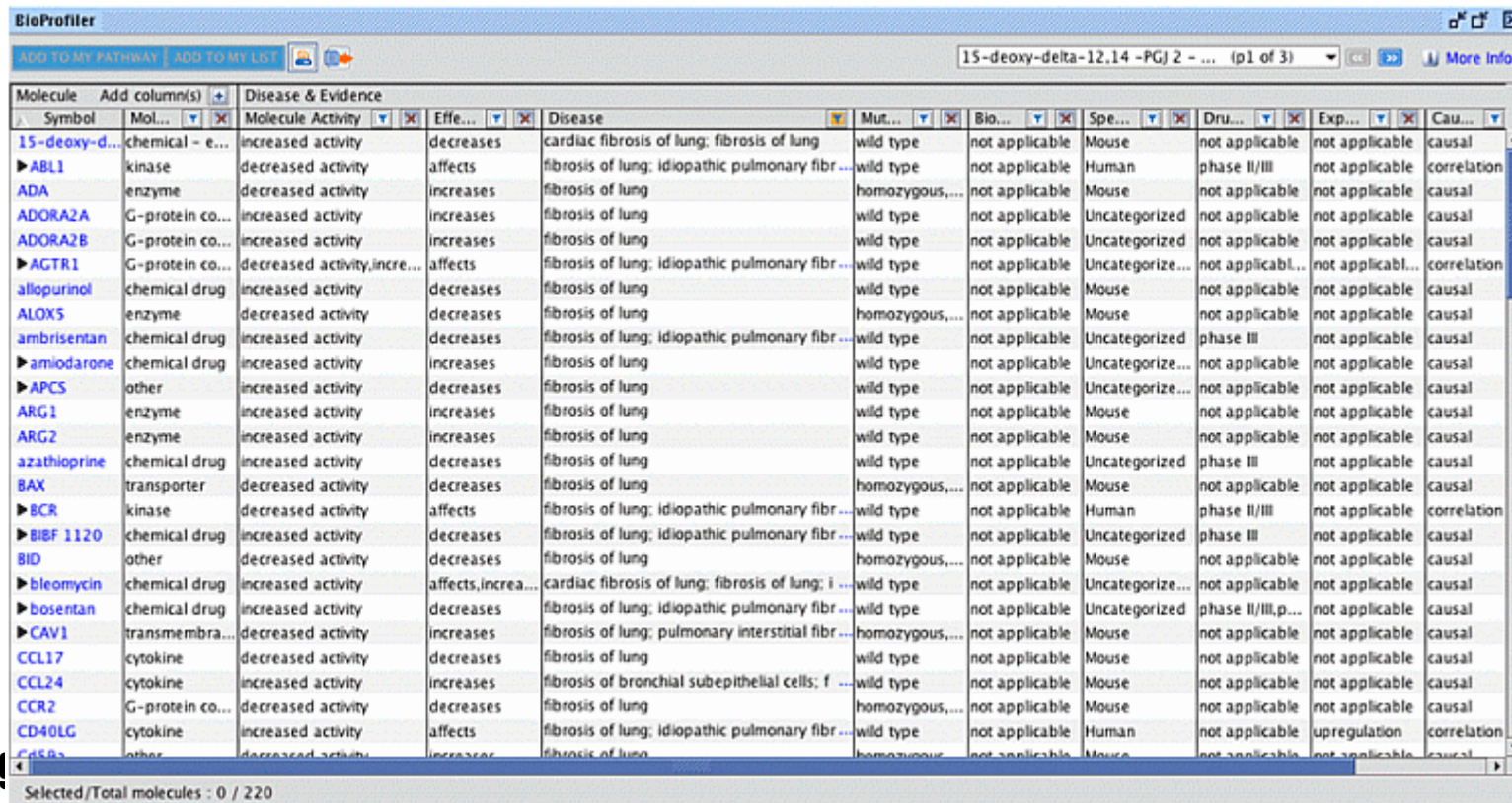
Core Analysis  
Tox Analysis  
Metabolomics Analysis  
Biomarker Filter  
Filter Dataset  
microRNA Target Filter  
**BioProfiler**

EDIT DATASET SETTINGS ANALYZE/FILTER DATASET CLOSE



# BioProfiler機能

- BioProfilerの結果：チェックした分子の一覧が表示されています。分子と疾患/機能との適切な関連性を見つけるためにすべての項目にフィルターをかけることができます。



The screenshot shows the BioProfiler application window. The title bar reads "BioProfiler". Below the title bar, there are buttons for "ADD TO MY PATHWAY" and "ADD TO MY LIST", and a search bar containing "15-deoxy-delta-12.14 -PGJ 2 - ... (p1 of 3)". The main area is a table with columns for Molecule, Add column(s), Disease & Evidence, and various filters. The table lists molecules such as ABL1, ADA, ADORA2A, ADORA2B, AGTR1, allopurinol, ALOX5, ambrisentan, amiodarone, APCS, ARG1, ARG2, azathioprine, BAX, BCR, BIBF 1120, BID, bleomycin, bosentan, CAV1, CCL17, CCL24, CCR2, CD40LG, and C68B. The table columns include Symbol, Mol..., Molecule Activity, Effe..., Disease, Mut..., Bio..., Spe..., Dru..., Exp..., and Cau... The status bar at the bottom indicates "Selected/Total molecules : 0 / 220".

Molecule	Add column(s)	Disease & Evidence	Mut...	Bio...	Spe...	Dru...	Exp...	Cau...		
Symbol	Mol...	Molecule Activity	Effe...	Disease	Mut...	Bio...	Spe...	Dru...	Exp...	Cau...
15-deoxy-d...	chemical - e...	increased activity	decreases	cardiac fibrosis of lung; fibrosis of lung	wild type	not applicable	Mouse	not applicable	not applicable	causal
▶ABL1	kinase	decreased activity	affects	fibrosis of lung; idiopathic pulmonary fibr...	wild type	not applicable	Human	phase II/III	not applicable	correlation
ADA	enzyme	decreased activity	increases	fibrosis of lung	homozygous,...	not applicable	Mouse	not applicable	not applicable	causal
ADORA2A	G-protein co...	increased activity	increases	fibrosis of lung	wild type	not applicable	Uncategorized	not applicable	not applicable	causal
ADORA2B	G-protein co...	increased activity	increases	fibrosis of lung	wild type	not applicable	Uncategorized	not applicable	not applicable	causal
▶AGTR1	G-protein co...	decreased activity, incre...	affects	fibrosis of lung; idiopathic pulmonary fibr...	wild type	not applicable	Uncategorize...	not applicabl...	not applicabl...	correlation
allopurinol	chemical drug	increased activity	decreases	fibrosis of lung	wild type	not applicable	Mouse	not applicable	not applicable	causal
ALOX5	enzyme	decreased activity	decreases	fibrosis of lung	homozygous,...	not applicable	Mouse	not applicable	not applicable	causal
ambrisentan	chemical drug	increased activity	decreases	fibrosis of lung; idiopathic pulmonary fibr...	wild type	not applicable	Uncategorized	phase III	not applicable	causal
▶amiodarone	chemical drug	increased activity	increases	fibrosis of lung	wild type	not applicable	Uncategorize...	not applicable	not applicable	causal
▶APCS	other	increased activity	decreases	fibrosis of lung	wild type	not applicable	Uncategorize...	not applicable	not applicable	causal
ARG1	enzyme	increased activity	increases	fibrosis of lung	wild type	not applicable	Mouse	not applicable	not applicable	causal
ARG2	enzyme	increased activity	increases	fibrosis of lung	wild type	not applicable	Mouse	not applicable	not applicable	causal
azathioprine	chemical drug	increased activity	decreases	fibrosis of lung	wild type	not applicable	Uncategorized	phase III	not applicable	causal
BAX	transporter	decreased activity	decreases	fibrosis of lung	homozygous,...	not applicable	Mouse	not applicable	not applicable	causal
▶BCR	kinase	decreased activity	affects	fibrosis of lung; idiopathic pulmonary fibr...	wild type	not applicable	Human	phase II/III	not applicable	correlation
▶BIBF 1120	chemical drug	increased activity	decreases	fibrosis of lung; idiopathic pulmonary fibr...	wild type	not applicable	Uncategorized	phase III	not applicable	causal
BID	other	decreased activity	decreases	fibrosis of lung	homozygous,...	not applicable	Mouse	not applicable	not applicable	causal
▶bleomycin	chemical drug	increased activity	affects, increa...	cardiac fibrosis of lung; fibrosis of lung; i...	wild type	not applicable	Uncategorize...	not applicable	not applicable	causal
▶bosentan	chemical drug	increased activity	decreases	fibrosis of lung; idiopathic pulmonary fibr...	wild type	not applicable	Uncategorized	phase II/III, p...	not applicable	causal
▶CAV1	transmembra...	decreased activity	increases	fibrosis of lung; pulmonary interstitial fibr...	homozygous,...	not applicable	Mouse	not applicable	not applicable	causal
CCL17	cytokine	decreased activity	decreases	fibrosis of lung	wild type	not applicable	Mouse	not applicable	not applicable	causal
CCL24	cytokine	increased activity	increases	fibrosis of bronchial subepithelial cells; f ...	wild type	not applicable	Mouse	not applicable	not applicable	causal
CCR2	G-protein co...	decreased activity	decreases	fibrosis of lung	homozygous,...	not applicable	Mouse	not applicable	not applicable	causal
CD40LG	cytokine	increased activity	affects	fibrosis of lung; idiopathic pulmonary fibr...	wild type	not applicable	Human	not applicable	upregulation	correlation
C68B	other	decreased activity	increases	fibrosis of lung	homozygous,...	not applicable	Mouse	not applicable	not applicable	causal

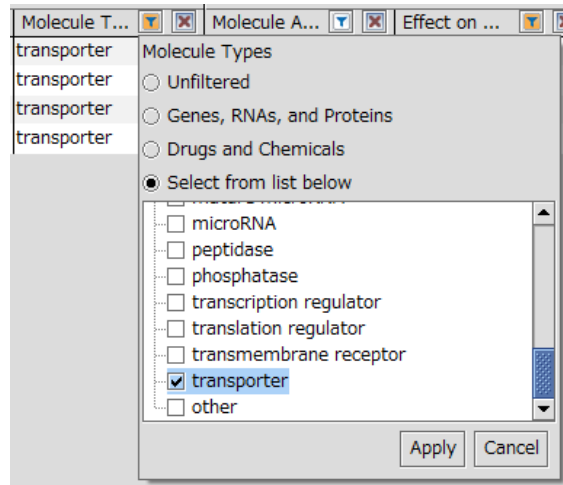


Di

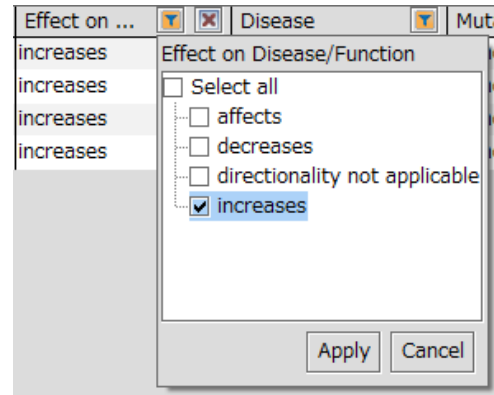
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# BioProfiler機能

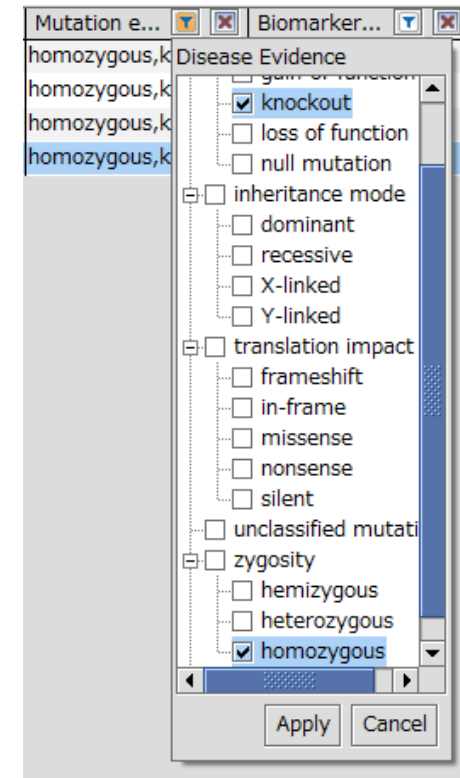
## ■ フィルター例



分子の種類



疾患/機能の方向性

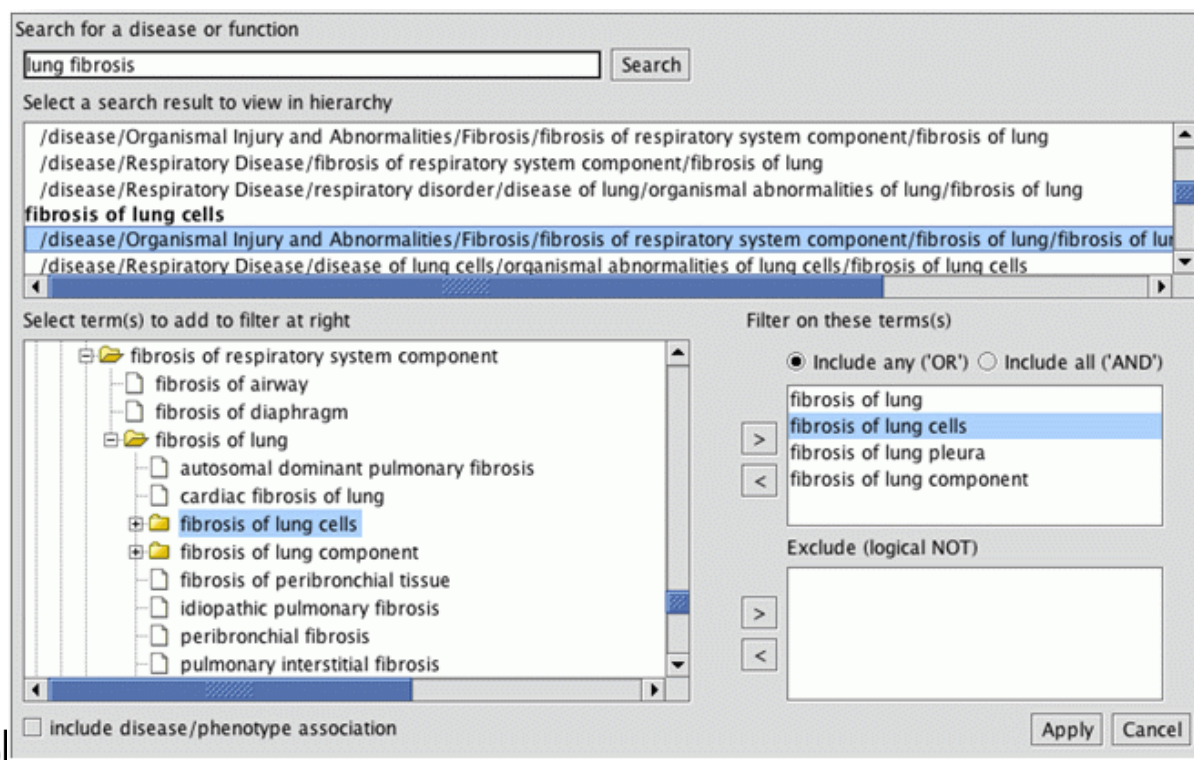


変異情報



# BioProfiler機能

- BioProfiler画面でDiseaseのFilterボタンをクリックすることで興味のある機能、疾患を右のボックスに追加することで、その機能、疾患に対するAnd、Or、Not検索を行うことができます。更に、「include disease/phenotype associations」にチェックを入れることで検索を拡張できます。



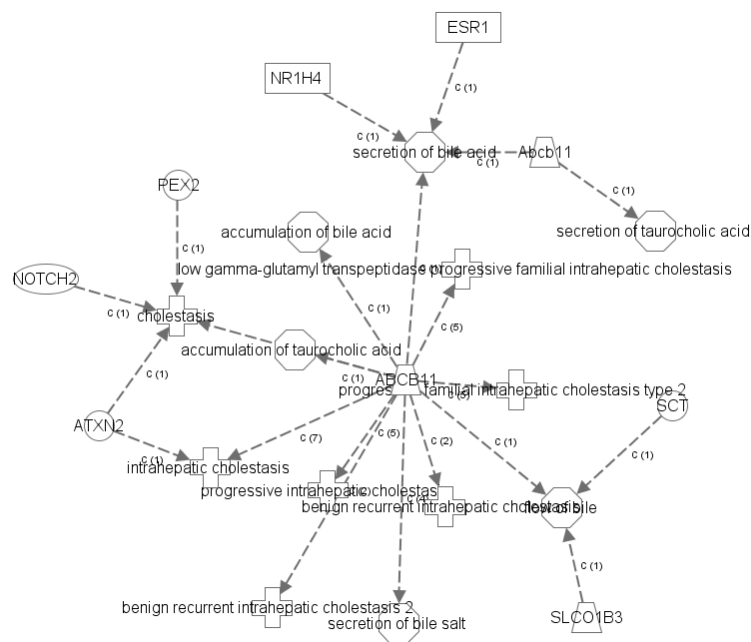




# BioProfiler機能

■ Display as Networkを使用すると分子とDisease、Function間のみ相互作用が表示されます。

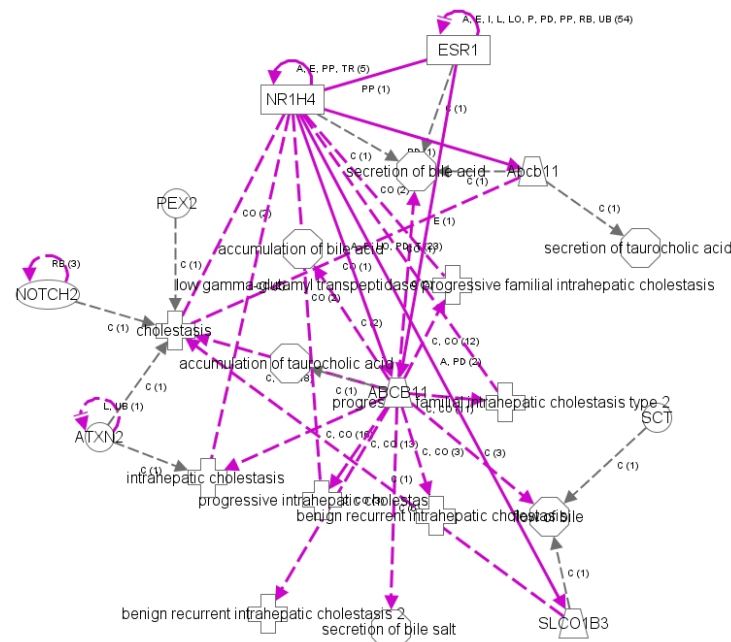
New My Pathway 7



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Display as Networkのみ

New My Pathway 7



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Connectで分子間相互作用を追加(紫線)