ENTAGEN

ACCELERATING INSIGHT

# ENTAGEN

- We help clients "Connect the Dots" in Big Data through products & custom solutions
- Innovative, award-winning software, TripleMap & Extera
- Named a 2013 Gartner "Cool Vendor" for Life Sciences
- Specialization in the life sciences, healthcare & related fields
- Pharma, biotech & healthcare customer base including,

NOVARTIS MERCK Pfizer Lilly FOUNDATION MEDICINE

- Founded in 2008
- Offices in Boston & Minneapolis

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# SELECT ENTAGEN CLIENTS


MERCK


Pfizer


NOVARTIS


Boehringer Ingelheim


VULCAN


LabCorp
Laboratory Corporation of America


AILERON THERAPEUTICS


Cequent pharmaceuticals


Lilly


Shire


Dart NeuroScience LLC
quality of mind


MERCK


MILLIPORE


FOUNDATION MEDICINE

DANA-FARBER CANCER INSTITUTE


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# ENTAGEN INNOVATIVE TECH


Entagen named a 2013 Gartner "Cool Vendor" in Life Sciences

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# ENTAGEN INNOVATIVE TECH


TripleMap & Extera named the Massachusetts Technology Leadership Council "Innovative Technology of the Year for Big Data" winner in 2012

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# ENTAGEN & THOMSON REUTERS

- Entagen was acquired by Thomson Reuters in October 2013
- Entire Entagen team retained in the acquisition
- Focus remains on TripleMap & Extera technologies
- Integration of Entagen technologies with Cortellis extends capabilities for our clients
- Entagen technologies backed by a large organization with a deep commitment to the life sciences and healthcare space

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EXTERA

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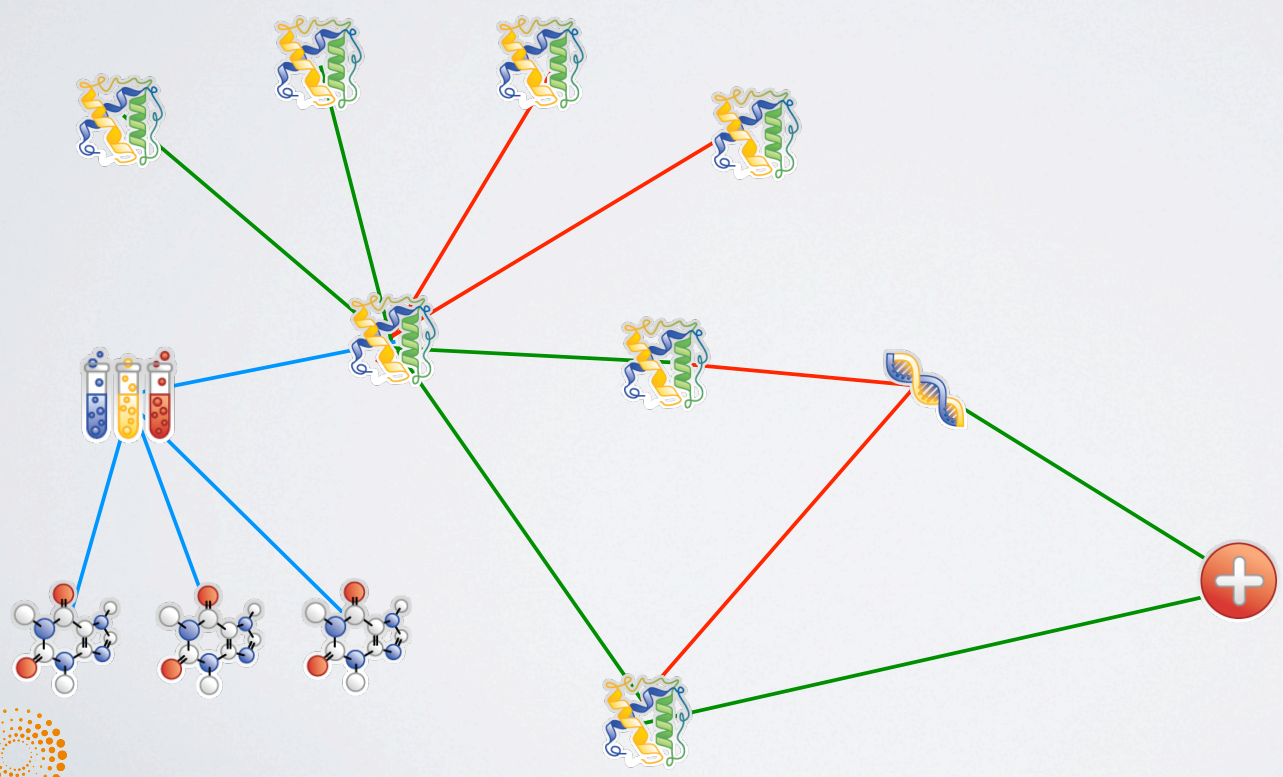
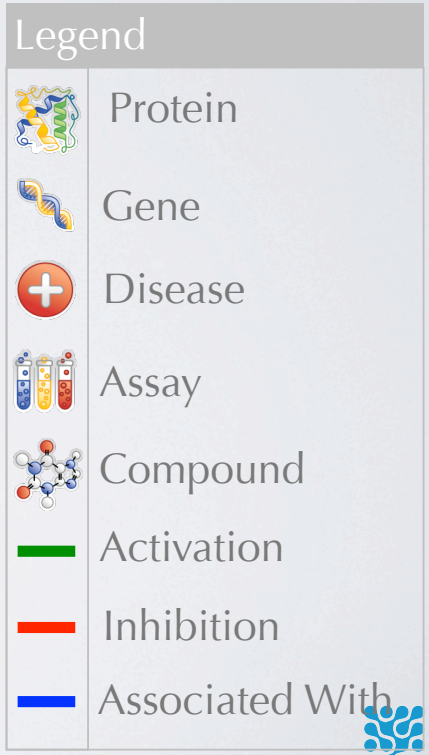
# WHAT'S A TRIPLE?

- Resource Descriptor Framework (RDF) or "triples" are a data formatting standard proposed by W3C
- Allow for powerful, flexible integration of things and the relationships between them



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<Something><Does Something><Something Else>

OR

<Something><Has Some><Property>

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Put a billion triples together in one place and you have a huge graph of things and the relationships between them.

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EXTERA

- Extera is NOT an NLP-based text mining platform.
  - We work synergistically with text mining providers. NLP output is Extera input!
- Extera is NOT a "triplestore"
  - Triplestores present performance & scalability challenges
  - Complicated SPARQL queries are the primary interface to triplestores
  - Triplestores are optimized for SPARQL queries, not high-performance search

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# EXTERA

- Extera IS a unique platform that provides high-performance indexing, mapreduce & horizontally scalable storage
- Extera IS a "living" data core which connects & integrates structured & unstructured data sources (eg Oracle, RDF, XML, Sharepoint, Documentum, Pubmed, CT.gov, Cortellis)
- Extera DOES provide a RESTful API for everything in it
- Extera IS secure and deployable behind the firewall
- Extera DOES bridge structured to unstructured content
- Extera DOES apply text analytics to create novel associations

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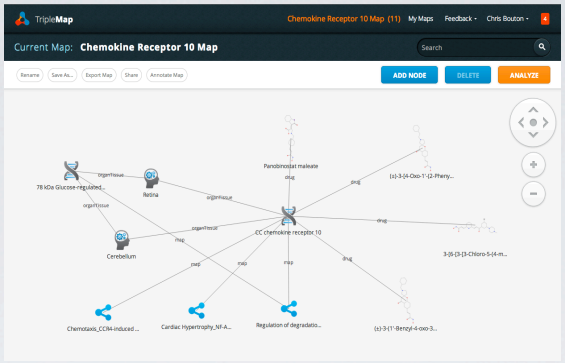
accelrys®




TripleMap

Graph search and analytics application

KNIME

tableau SOFTWARE

REST API

EXTERA

High-performance, Horizontally Scalable Semantic Data Core

Thomson Reuters Cortellis

RDF

RDF, XML, Structured Static & Live Data

Relational Databases (e.g. Oracle, SAP, MS Server)

Microsoft® SharePoint®

Sharepoint, Documentum, Patents Pubmed

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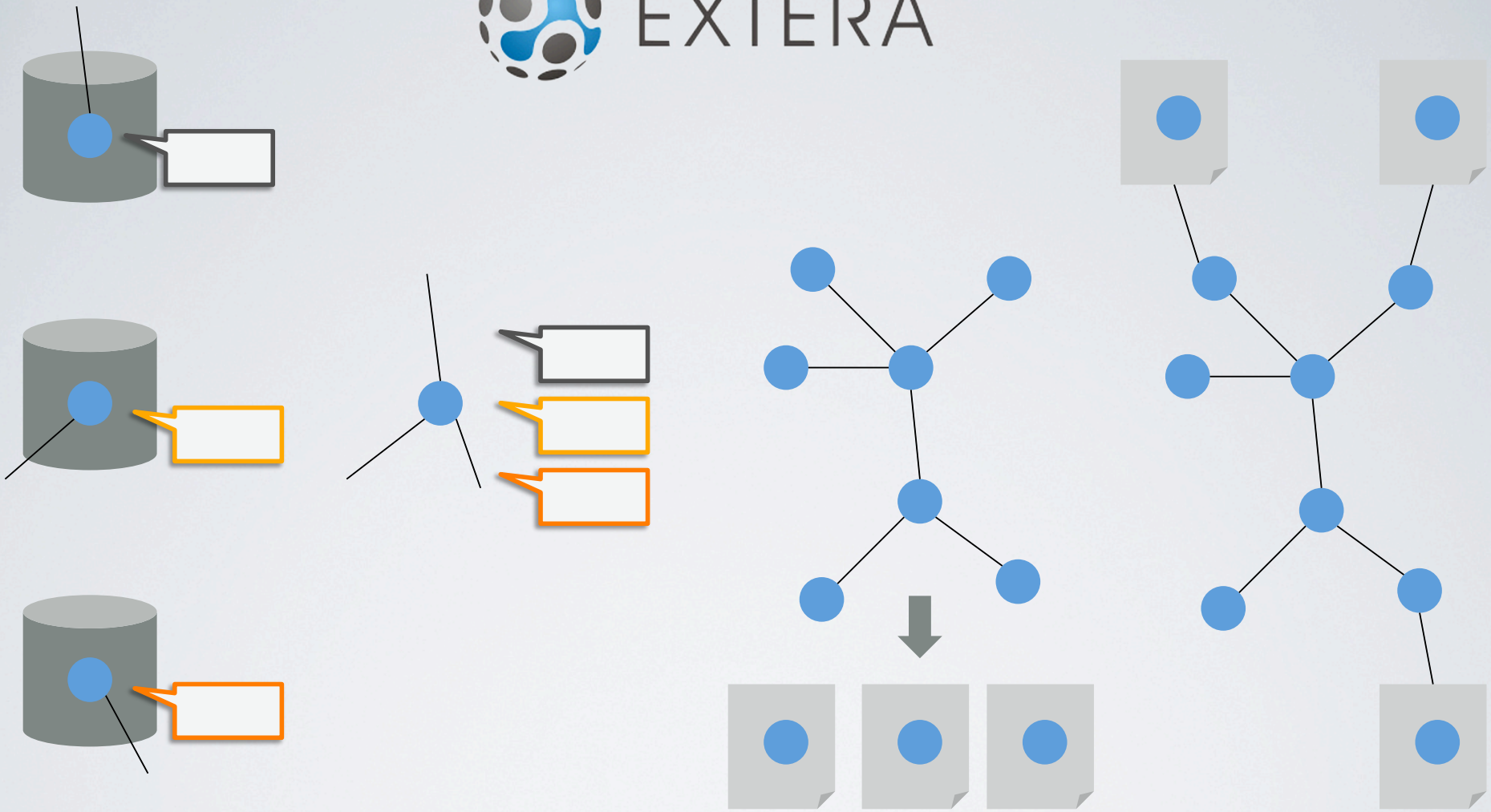
EXTERA



MAP STITCH SCAN INDEX

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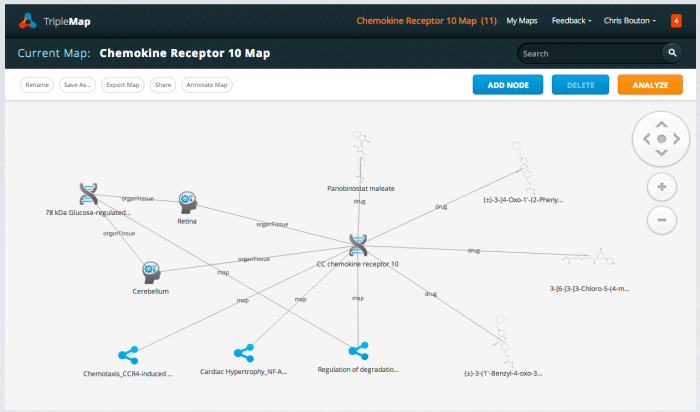
TripleMap




KNIME

Microsoft® SharePoint®

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EXTERA

SERVE

INDEX

API

SPARQL

XML

RDBMS

PUBMED

RDF

FILES

SYNC

TRIPLE STORE

SPARQL

MAPREDUCE

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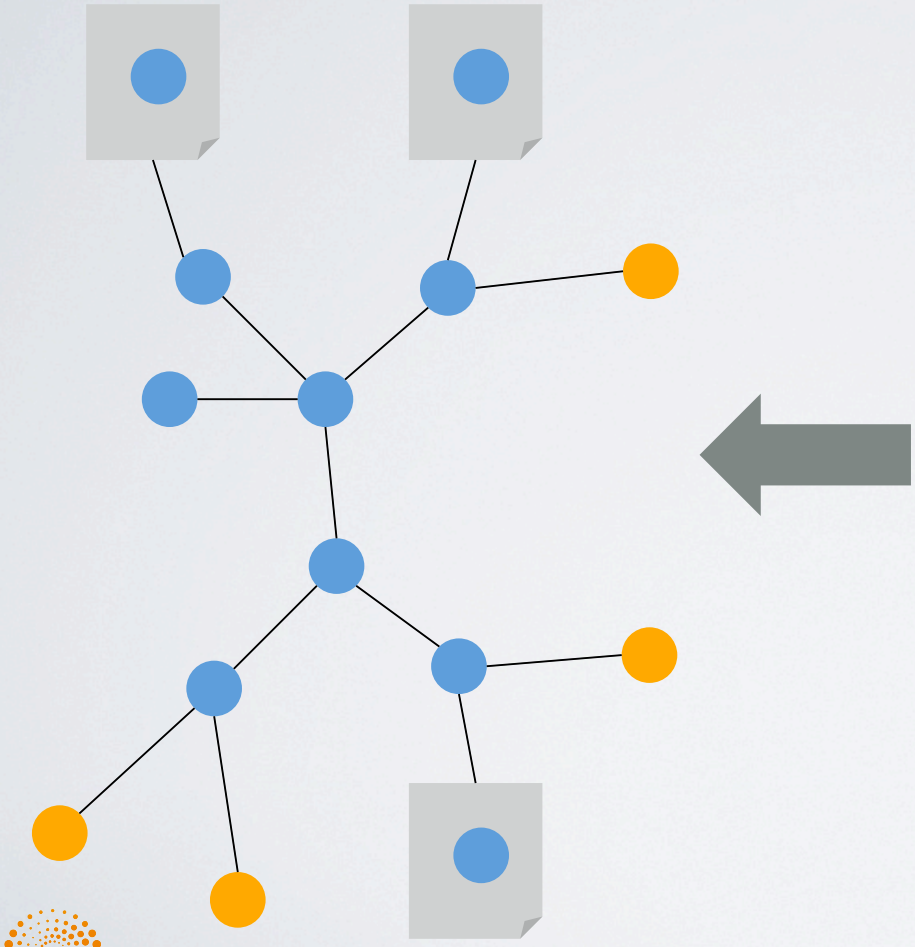
EXTERA

# Search Around Text Analytics for Novel Associations



JOURNAL OF VIROLOGY, June 1974, p. 1263-1273
Copyright © 1974 American Society for Microbiology

Vol. 13, No. 6
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## Simian Virus 40 Transcription in Productively Infected and Transformed Cells

ROBERT A. WEINBERG, ZVI BEN-ISHAI, AND JOHN E. NEWBOLD

*Center for Cancer Research and the Department of Biology, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139; Department of Virology, Hebrew University-Hadassah Medical School, Jerusalem, Israel; and Department of Bacteriology and Immunology, School of Medicine, University of North Carolina, Chapel Hill, North Carolina 27514*

Received for publication 19 December 1973

Several independent cell lines transformed by simian virus 40 carry a species of viral RNA of 900,000 to 1,000,000 daltons. A viral RNA species of similar size is found early in the lytic cycle. Late in the [illegible] prominent viral RNA species of about 600,000 and 900,0[illegible] the larger late species shares nucleotide sequences with, [illegible]n, the smaller. These RNA species are located in the cytopla[illegible] the infected cell. The regions of the viral genome coding for these RNA species are mapped by hybridization of lytic RNA species to fragments of the genome produced by cleavage with *Haemophilus aegyptius* endonuclease.

Simian virus 40 (SV40) demonstrates a productive, lytic infection in monkey kidney cells. Infection of cells from a variety of other mammals leads to transformation of these cells with no production of progeny virus. During the early portion of the lytic cycle, before the onset of viral DNA [illegible] species of viral cytoplasmi[illegible]nd (42, 43). A species of v[illegible]ize to early lytic RNA has be[illegible] mouse 3T3 cells transformed by SV40 (38, 42). The early and transformed viral RNAs sediment as molecules of about 19*S*, but migrate in acrylamide gels halfway between 18 and 28*S* rRNA's.

During the late portion of the lytic cycle, two species of viral RNA are observed (38, 42, 43). The smaller of the two late lytic RNAs sediments at 16*S* in sucrose gradients, but migrates similarly to 18*S* rRNA in acrylamide gels. The larger of the two late lytic RNAs sediments in sucrose gradients and migrates in gels like the early and transformed viral RNAs. The present studies were designed to investigate the relationship between these four viral RNA species (one transformed, one early lytic, two late lytic).

The interpretation of the present experiments is aided greatly by several recent advances in the field of SV40 transcription: (i) the description of the strand orientation of the SV40 transcription (12, 15, 29); (ii) the use of restriction enzyme fragments to create a map of the SV40 genome (3, 33); and (iii) the use of these fragments in determining the regions of early and late transcription on the SV40 genome map (13, 30). These studies now indicate that the transcription of the stable, early lytic RNA derives from about 35% of one strand of the SV40 DNA genome. The transcription of stable viral RNA beginning late in the lytic cycle is derived from about 65% of the other strand of the DNA genome. These two regions do not overlap on the genome map. The regions of early and late transcription have now been mapped relative to the restriction enzyme cleavage sites on the viral genome. Additionally, the absolute directions of transcription of the early and late regions relative to the restriction enzyme sites have now been determined (13, 30).

The present report presents information on the size of the viral transcripts made in a variety of virus-transformed cells. Additionally, the size of the early viral RNA is now more precisely demons[illegible] Oth[illegible]ments describe the relative[illegible]of the two late viral RNAs. [illegible]eri[illegible]riments determines the association of the early and late RNAs with different portions of the SV40 genome by hybridizing different lytic RNA species to different genome fragments generated by restriction enzyme cleavage.

### MATERIALS AND METHODS

The majority of the present experiments were performed by using the Sabin small-plaque strain of SV40 derived by M. Vogt. The experiment shown in Fig. 5 was performed by using a small-plaque strain originally obtained from K. Takemoto and further cloned by D. Nathans.



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TRIPLEMAP

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# TRIPLEMAP

TripleMap | Search | My Maps | Feedback | Chris Bouton | 0

Target | Logic: AND | Sort | Select | View As List | Add Selected to Map | Export | Add All to Map

Search within results

## All Types Filters

**Data Source**
- IDD (1999)
- TR Targets (1508)

## Target Filters

**Type**
- Protein (1335)
- Gene (173)

**Available Since Date**
- 2007-09-20 10:01:16.0 (867)
- 2008-01-29 05:26:35.0 (10)
- 2008-03-12 03:55:38.0 (9)
- 2011-11-29 02:45:04.0 (9)
- 2011-11-24 04:54:24.0 (7)
- 2011-12-02 03:14:50.0 (7)
- 2007-10-19 03:05:09.0 (6)
- 2007-11-22 02:43:41.0 (6)
- 2007-11-30 02:10:51.0 (6)
- 2011-02-11 19:54:38.0 (6)

more...

**Embl**
- CH471081 (22)
- CH471051 (19)
- CH471077 (19)
- CH471054 (17)
- CH471100 (16)
- CH471055 (15)
- CH471059 (12)
- CH471062 (12)
- CH471066 (12)
- CH471079 (12)

more...

**Genbank**
- AC_000049 (19)
- AC_000138 (19)
- NC_000006 (19)
- AC_000060 (15)

**Results for: *:* (3426 results)**

- CCL2
- ID1 variant 1
- PTK2 variant 2
- BCL2L1 variant 1
- HIF1A variant 1
- PARP2 variant 1
- NCOA1, variant 1
- MYB variant 2
- ABCC1 variant 1
- CLU variant 1
- ABCC3 variant 1
- VEGFA variant 6
- CEBPA
- HNRPA1 variant 1
- GDNF variant 1
- LECT1 variant 1
- GLI1 variant 1
- VCAM1 variant 1
- IL18 variant 1
- ADAM10
- NOS3 variant 1

Page 1 of 7 | Show 500 rows/page

**Related Entities**
- Drug (7)
- Document (1)

**Related Terms**
- mcp
- ccl5
- mcp 1
- ccl2
- ccl3
- ccr2
- chemokine
- levels
- cxcl10
- protein
- monocyte
- mrna
- monocytes
- ccl7

**Related Maps**
- CCL2 Map

# TRIPLEMAP

TripleMap | Search | My Maps | Feedback | Chris Bouton | 0

Drug | Logic: AND | Sort | Select | View As Grid | Add Selected to Map | Export | Add All to Map

Search within results

## All Types Filters

**Data Source**
- TR Targets (7)
- IDD (5)

## Drug Filters

**Mechanisms Of Actions**
- CCL2 Expression Inhibitors (7)
- VCAM1 Expression Inhibitors (5)
- Antioxidants (3)
- ICAM1 Expression Inhibitors (2)
- CRTH2 Receptor Antagonists (1)
- EGR1 Expression Enhancers (1)
- ERK1 Inhibitors (1)
- ERK2 Inhibitors (1)
- IKK-2 (IKK-beta) Inhibitors (1)
- Insulin Sensitizers (1)

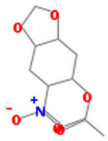
more...

**Translated Drug Id**
- 17000 (1)
- 2594 (1)
- 2876 (1)
- 32475 (1)
- 36713 (1)

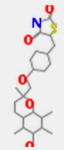
**Last Modification Date**
- 2009-07-23T09:02:26.000-04:00 (1)
- 2009-07-23T09:02:26.000-05:00 (1)
- 2009-12-23T17:20:55.000-05:00 (1)
- 2009-12-23T17:20:55.000-06:00 (1)
- 2011-06-23T14:46:17.000-04:00 (1)
- 2012-03-05T16:40:47.000-05:00 (1)
- 2012-05-23T12:20:56.000-04:00 (1)
- 2012-10-01T13:25:44.000-04:00 (1)
- 2012-11-09T17:43:22.000-06:00 (1)
- 2013-01-29T14:23:11.000-05:00 (1)

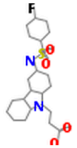
more...

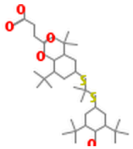
**Results for: [Related Items] (7 results)**

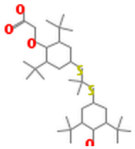

INV-403

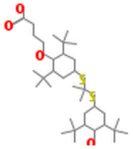

Sorbus cortex extract


Troglitazone


Ramatroban


Succinobucol


Camobucol


Elsibucol

Page 1 of 1 | Show 500 rows/page

**Related Entities**
- Company (3)
- Therapeutic Action (3)
- Document (551)
- Disease (2)
- Target Condition (3)
- Target (3)
- Technology (1)

**Related Terms**
- rosiglitazone
- ppar
- ppar γ
- pioglitazone
- troglitazone
- pparγ
- ciglitazone
- diabetes
- inhibited
- apoptosis
- insulin

**Related Maps**
- CCL2 Map

# TRIPLEMAP

TripleMap | Search | My Maps | Feedback | Chris Bouton | 0

Sort | Add Selected to Map | Export | Add All to Map

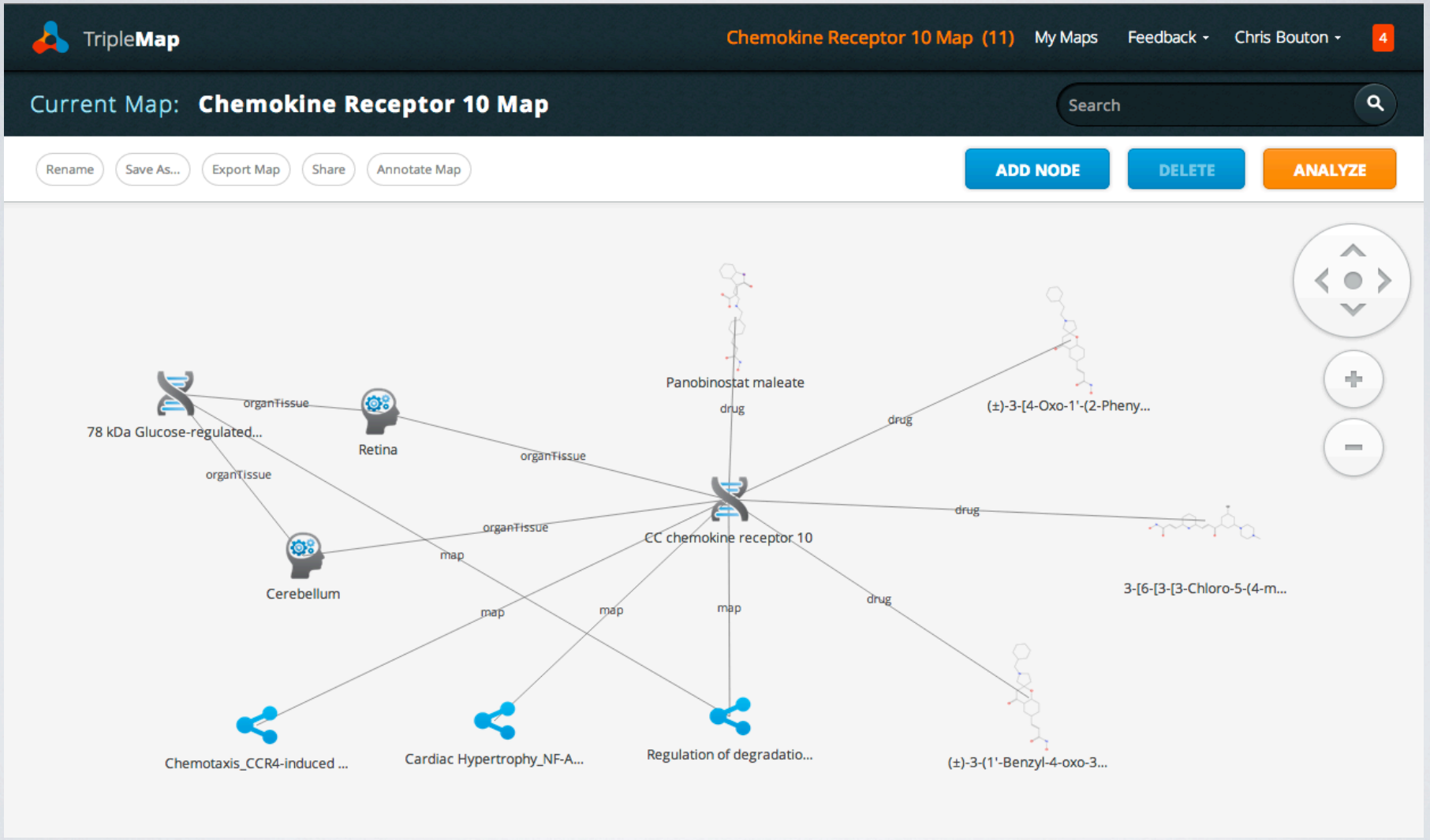
## troglitazone ⟷ ppar γ

**Association Evidence**

| | |
|---|---|
| Effects of peroxisome proliferator-activated receptor-α and -γ agonist, JTT-501, on diabetic complications... | ... (ZDF) rats, a model of type 2 diabetes. Comparison is made with **troglitazone**, a **PPAR-γ** agonist. The ... |
| 15-deoxy-Δ 12,14 -PGJ 2 induces synoviocyte apoptosis and suppresses adjuvant-induced arthritis in rats | ... than **troglitazone**. These findings suggest that **PPAR-γ** may be an important immunoinflammatory m... |
| Troglitazone, a PPAR-γ activator prevents endothelial cell adhesion molecule expression and lymphocyte... | ... results suggest that **PPAR-γ** agonists like **troglitazone** may be useful in the clinical treatment of IBD. ... |
| Therapeutic Effects of Troglitazone in Experimental Chronic Pancreatitis in Mice | ... **troglitazone**, a ligand for **PPAR-γ**, on pancreatic damage and fibrosis in experimental chronic pancre... |
| Activation of Peroxisome Proliferator-Activated Receptor-γ Reverses Squamous Metaplasia and Induces T... | ...-affinity **PPAR-γ** agonist, **troglitazone** (TZ), resulted in gain of CK13 and loss of CK14 protein expressi... |
| Expression of Peroxisome Proliferator-Activated Receptor γ (PPARγ) in Human Transitional Bladder Cance... | ... LG100268, sensitized T24 bladder cancer cells to the lethal effect of **troglitazone** and two other **PPAR** ... |
| The PPAR Gamma Agonist Troglitazone Regulates Erk 1/2 Phosphorylation via a PPAR γ -Independent, M... | ... gamma (**PPAR γ** ) that includes the compounds ciglitazone, **troglitazone** (Rezulin), rosiglitazone (Avan... |
| PPAR-γ Activation Inhibits Angiogenesis by Blocking ELR+CXC Chemokine Production in Non-small Cell L... | ... non small cell lung cancer cell line) tumor-bearing SCID mice with **PPAR-γ** ligands **troglitazone** (Tro... |
| PPAR γ and Apoptosis in Cancer | ... pioglitazone, ciglitazone, **troglitazone**, and rosiglitazone are synthetic **PPAR γ** ligands which are insul... |
| Induction of sodium iodide symporter gene and molecular characterisation of HNF3 β /FoxA2, TTF-1 and ... | ..., **troglitazone** (**PPAR γ** ligand), 1,25-dihydroxyvitamin D3 (1,25(OH) 2 D 3 ), thyroid hormone T 3 , and ... |
| Lack of efficacy of troglitazone at clinically achievable concentrations, with or without 9- cis retinoic acid ... | ... correlate with the expression of **PPAR γ** and RXR α in HCC cells; and (4) whether **troglitazone**, at clini... |
| PPAR-γ receptor ligands: novel therapy for pituitary adenomas | ... 39 human pituitary tumors. **PPAR-γ** activating thiazolidinediones (TZDs) rosiglitazone and **troglitazon**... |
| Prostaglandin D 2 , its metabolite 15-d-PGJ 2 , and peroxisome proliferator activated receptor-γ agonists i... | ... metabolism and apoptosis. Exposure to synthetic **PPAR-γ** ligands (e.g. ciglitazone, **troglitazone**) mimi... |
| The Critical Role of PPAR γ in Human Malignant Melanoma | ... family of **PPAR γ** agonists includes rosiglitazone, pioglitazone, ciglitazone, and **troglitazone**... |
| PPAR Gamma Activators: Off-Target Against Glioma Cell Migration and Brain Invasion | ... by applying a **PPAR γ** inactive derivative of the TDZ **troglitazone** (Rezulin) which potently counteracts... |
| Relationship between arachidonic acid pathway and human renal cell carcinoma | ... of 10–40 μM by using MTT assay ( Table 1 ). RCC cells treated with **PPAR-γ** ligands (25 μM **troglitazon**... |
| PPAR γ in Neuroblastoma | ... **troglitazone** induced **PPAR γ** -dependent apoptosis [ 69 ]. Similar data were reported later on by Sch... |
| Activating Effect of Benzbromarone, a Uricosuric Drug, on Peroxisome Proliferator-Activated Receptors | ... benzbromarone for **PPAR γ** was weak and clearly inferior to the affinities of **troglitazone** and pioglit... |
| Rosiglitazone Prevents High Glucose-Induced Vascular Endothelial Growth Factor and Collagen IV Expres... | ... nucleus, and that **troglitazone** (an agonist of **PPAR γ** ) prevents cellular dedifferentiation as detected ... |
| Hexarelin Signaling to PPAR γ in Metabolic Diseases | ... of these genes were shared with TZD **troglitazone** treatment, indicating that **PPAR γ** may be consider... |
| Troglitazone Induces Extracellular Matrix and Cytoskeleton Remodeling in Mouse Collecting Duct Cells | .... 2.2. Chemicals and Reagents **Troglitazone** (Sigma) is a synthetic **PPAR γ** agonist and was used at 5 μ ... |

Page 1 of 1 | Show 500 rows/page

# TRIPLEMAP

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