

The background features a white page with several overlapping blue circles of varying sizes and shades. Two thin blue lines intersect at the top left, forming a large triangle that frames the page. The text 'Case Studies' is centered within a blue-bordered box in the upper left quadrant.

Case Studies

XTractor TM

Data mining Simplified



Inferences from XTractor on APOE and its relations to Atherosclerosis

Purpose of the Analysis:

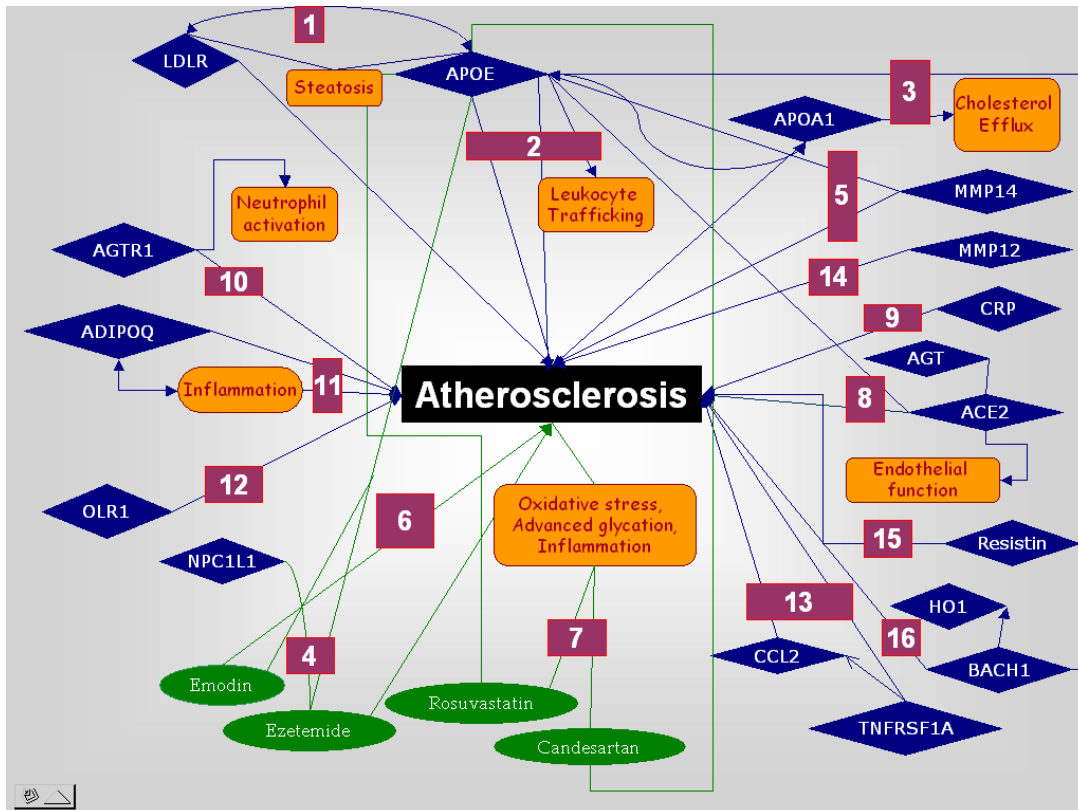
- [Study the biology around APOE in terms of interacting and influencing proteins](#)
- [Relationships between APOE and Atherosclerosis](#)
- [Process that play a major role in the disease condition](#)
- [Atherosclerotic drugs and their relations to APOE](#)

It took **less than 30 minutes** to make the below mentioned inferences from XTractor.

Compared to the conventional Database systems we provide you with the **flexibility** to store/save, display and tag the categorized facts based on your own preference.

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Stay current with the **latest manually annotated relationships** across proteins, drug, biological processes and diseases as they get published





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- Knockouts and mutational studies
- Protein- Disease co-relationships
- Possible Biological Process Effects
- Understanding Diseased Pathways
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Data References for the Map above: *(Each of these sentences was summarized from multiple handpicked sentences in XTractor)*

- APOE clearance is directed thro LDLR. Absence of LDLR and APOE Leads to steatosis with severe inflammation characterized by infiltration of macrophages and increased nuclear factor kappaB (NF-kappaB) signaling
- APOE plays a role in leukocyte trafficking in atherosclerosis. Apolipoprotein E (ApoE) is an important component of plasma lipoprotein with anti-atherosclerosis function
- APOA1 increases cholesterol efflux and reduces atherosclerosis in co-operation with APOE via up regulation of ABCA1 and ABCG1. Targeting APOA1-APOE interaction could form the basis of cell based therapy for atherosclerosis
- Ezetemide prevents atherosclerosis by decreasing plasma cholesterol levels in absence of APOE and NPC1L1
- MMP14 promotes the development of hyperlipidemia and atherosclerosis by degrading APOE
- Emodin stabilizes atherosclerotic plaques in aortic root via its anti-inflammatory action in absence of APOE
- Rosuvastatin and Candesartan attenuate atherosclerosis in absence of APOE via effects on advanced glycation, oxidative stress and inflammation
- ACE2 improves endothelial function in AGT dependent manner in absence of APOE via attenuation of NADPHox-induced ROS production. ACE2 enhances plaque stability and reduces atherosclerosis

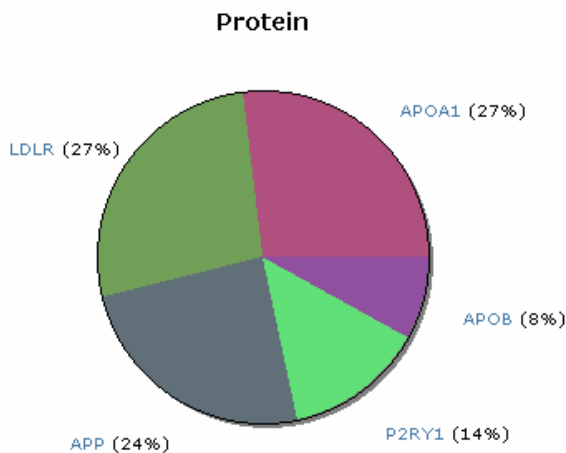


- CRP levels increase in arterial intima during atherosclerosis. Targeting CRP by CRP-Pet complex is effective approach to capture native LDL to prevent development of atherosclerosis
- Transgenic AGTR1 improves atherosclerosis by normalization of dysregulated neutrophil activation
- High ADIPOQ is inversely related to systemic inflammation and is protective factor in atherogenesis
- Lectin-like oxidized low-density lipoprotein receptor-1 (LOX-1) plays an important role in atherosclerosis and is found to be an endothelial cell receptor for AGEs.
- p55 TNFR contributes to development of atherosclerosis by enhancing lesional foam cell formation and by promoting the expression of MCP-1
- MMP12 accelerates the initiation of atherosclerosis and stimulates progression of fatty streaks to fibrous plaques in transgenic rabbits
- Resistin in serum is associated with high risk in patients with atherosclerosis
- Disruption of Bach1 gene in Apo E KO mice caused inhibition of atherosclerosis through up regulation of HO-1

How did we arrive at this analysis in 30 minutes?

Step 1:

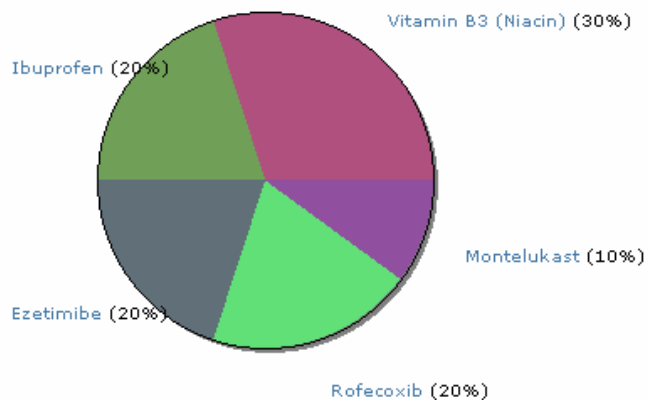
Instant Analysis: XTractor gives instant top statistics for your queried entity, here APOE



Top 5 Proteins associated with APOE
 %s indicate the number of manually handpicked annotated sentences for each combination
 EG: 27% of the sentences in XTractor talk about APOE and APOA1

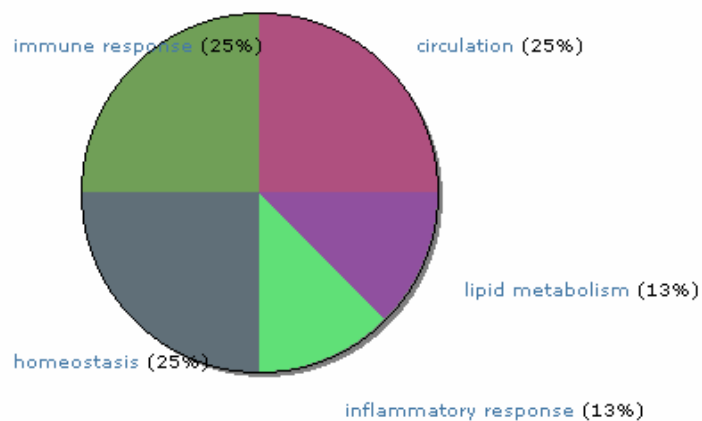


Drug



Top 5 Drugs associated with APOE
%s indicate the number of manually handpicked annotated sentences for each combination of drug and protein

Process



Top 5 Biological Processes associated with APOE
%s indicate the number of manually handpicked annotated sentences for each combination of processes and protein



Step 2:

Tabular Data Representation:

- Analyze and Refine by going through the Associated entities map for APOE,
- Click on each of the entities below displays the annotated sentences

Query (Total queries : 1)

Click Below ↓

APOE (175)

Query Details | **Associated Entities** | Statistics

Other Keywords List

Protein	Disease	Drug	Process	Key Relationships	Categories
APOA1(10)	Atherosclerosis(32)	Vitamin B3 (Niacin)(3)	circulation(2)	Associated(17)	Gene- Disease(102)
LDLR(10)	Alzheimer Disease(26)	Ibuprofen(2)	immune response(2)	Reduced(13)	Gene- Knockout/ Knockdown(75)
APP(9)	Dementia(5)	Ezetimibe(2)	homeostasis(2)	Expression(7)	Gene- Gene(22)
P2RY1(5)	Wounds and Injuries(5)	Rotecoxib(2)	inflammatory response(1)	Activity(4)	Gene- Mutation(13)
APOB(3)	Amyotrophic Lateral Sclerosis(5)	Montelukast(1)	lipid metabolism(1)	Trafficking(3)	Drug- Disease(6)
FGF(3)	Hyperlipidemias(5)	Rosuvastatin(1)	cell migration(1)	Suppression(3)	Gene- Drug(5)
APOA5(3)	Fatty Liver(4)	Candesartan(1)	phosphorylation(1)	Increase(3)	Gene- Process(3)
CETP(3)	Tuberculosis(4)	Pravastatin(1)	ceramide biosynthesis(1)	Reduction(3)	Biomarker- Disease(1)
PSEN1(3)	Coronary Artery Disease(3)			Decrease(3)	Gene- Pathways(1)
VCAM1(3)	Hypertriglyceridemia(3)			Reduce(3)	
MTHFR(3)	Down Syndrome(3)			Candidate(3)	
PSEN2(2)	Confusion(3)			Inhibitor(3)	
AGER(2)	Hypercholesterolemia(3)			Enhancement(2)	
PTGS1(2)	Obesity(3)			Attenuated(2)	
MMP14(2)	Lewy Body Disease(3)			Phosphorylation(2)	

Sentence Display Panel:

- Annotated entities highlighted and linked to Public databases.
- Each sentence is also categorized into Gene-Drug, Gene- Marker or other relationships manually
- Also select the sentences and save them in folders – named as per your preference.

Select All

Total pages : 4 (32 sentences)

First << Previous 1 **2** 3 4 Next >> Last

8364 In conclusion, these results suggest that **emodin** can stabilize the **VAP** in the aortic root of ApoE-knockout mice, which is probably due to its anti-inflammatory effect.

Entity		Abstract		Query and Users	
Gene	Disease	Drug	Processes	Key Relationships	Categories
APOE	Atherosclerosis	Ibuprofen	-	Stabilize	Gene- Disease Drug- Disease Gene- Knockout/ Knockdown

9508 Single-Dose and Fractionated Irradiation Promote Initiation and Progression of **Atherosclerosis** and Induce an Inflammatory Plaque Phenotype in **ApoE(-/-)** Mice.

Entity		Abstract		Query and Users	
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Step 3:

Search within results:

- Search your collection of sentences at ease
- Refine and filter your required facts faster

The screenshot displays the XTractor search interface. At the top, there is a navigation bar with buttons for Home, Create Queries, Queries, Explore, Search, Profile, and My Contacts. Below this is a search query form with the following fields:

- Entity type: Protein (selected from a dropdown menu)
- Symbol: APOA1
- A Search button

Below the search form, there are tabs for My Sentences and Public Sentences. The search results are displayed in a table with the following structure:

Total pages : 2 (16 sentences)	First 1 2 Next >> Last	
<input type="checkbox"/> 862	Studies with different designs describe that for instance genes (and their variants) for cytochromes, apolipoprotein E and A1 and cholesterol 7alpha-hydroxylase may be important genetic determinants of the effect of pharmacological treatment of dyslipidemia and play a role in the individualisation of treatment.	
<input type="checkbox"/> 1614	Synergistic effect between apolipoprotein E and apolipoprotein A1 gene polymorphisms in the risk for coronary artery disease . .	
<input type="checkbox"/> 1615	Serum apolipoprotein E and apolipoprotein A1 levels were significantly lower in CAD patients than controls. .	

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