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| ***SimGeneRIF results snapshot – Vector size = 30, Context window = 2*** | |
| ***WITHIN-GENE*** TRAINING, ***BETWEEN-GENE*** SIMILARITIES | ***ACROSS-GENE*** TRAINING, ***BETWEEN-GENE*** SIMILARITIES |
| Query: **Gene - 9**, Pubmed ID - 25886288, RIF - NAT1 genetic polymorphisms were found to be a risk factor for smokers in the Black population of South Africa with esophageal squamous cell carcinoma.  Most similar RIFs **(BETWEEN-GENE)** to query RIF - (SENT\_25886288-9606-9, **NAT1 genetic polymorphisms were found to be a risk factor for smokers in the Black population of South Africa with esophageal squamous cell carcinoma.**):  Indices [198, 94, 90, 120, 613, 184, 85, 114, 146, 171]  Distances [1.0, 0.55887, 0.55673, 0.55198, 0.5207, 0.47504, 0.46587, 0.46376, 0.45955, 0.44502]  (Distance: 1.0, Record: SENT\_25886288-9606-9)  **Distance - 1.0**, PMID - 25886288, RIF(s):  9606 9 25886288 2016-01-23 10:40:00 NAT1 genetic polymorphisms were found to be a risk factor for smokers in the Black population of South Africa with esophageal squamous cell carcinoma.  9606 10 25886288 2016-01-23 10:40:00 Frequent red meat consumption was associated with increased esophageal cancer risk for the Mixed Ancestry population of South Africa with NAT2 polymorphisms.  (**Distance: 0.55887**, Record: SENT\_11927838-9606-9)  Distance - 0.55887, PMID - 11927838, RIF(s):  9606 9 11927838 2010-01-21 00:00:00 NAT1 genotype acts as a modifier of diisothionate exposure-associated asthma risk  9606 9 11927838 2008-03-13 08:44:00 Observational study of gene-disease association. (HuGE Navigator)  9606 10 11927838 2008-03-13 09:07:00 Observational study of gene-disease association. (HuGE Navigator)  (Distance: 0.55673, Record: SENT\_11034589-9606-9)  Distance - 0.55673, PMID - 11034589, RIF(s):  9606 9 11034589 2008-03-13 09:11:00 Observational study of gene-disease association and gene-environment interaction. (HuGE Navigator)  9606 10 11034589 2008-03-13 09:02:00 Observational study of gene-disease association and gene-environment interaction. (HuGE Navigator)  (Distance: 0.55198, Record: SENT\_15523664-9606-9)  Distance - 0.55198, PMID - 15523664, RIF(s):  9606 9 15523664 2010-01-21 00:00:00 NAT1 polymorphism and lack of maternal multivitamin use increasescrisks of isolated cleft lip with/without cleft palate  9606 9 15523664 2008-03-13 08:49:00 Observational study of gene-disease association. (HuGE Navigator)  (Distance: 0.5207, Record: SENT\_14668333-9606-19)  Distance - 0.5207, PMID - 14668333, RIF(s):  9606 19 14668333 2010-01-21 00:00:00 results suggest that the interaction of apolipoproteins with ATP binding cassette transporter A1(ABCA1)-expressing cells activates JAK2 which enhances apolipoprotein interactions with ABCA1 and lipid removal from cells  (Distance: 0.47504, Record: SENT\_23160945-9606-9)  Distance - 0.47504, PMID - 23160945, RIF(s):  9606 9 23160945 2013-06-01 10:42:00 Smoking, variation in N-acetyltransferase 1 (NAT1) and 2 (NAT2), and risk of non-Hodgkin lymphoma.  9606 10 23160945 2013-06-01 10:42:00 Smoking, variation in N-acetyltransferase 1 (NAT1) and 2 (NAT2), and risk of non-Hodgkin lymphoma.  (Distance: 0.46587, Record: SENT\_24799681-9606-2)  Distance - 0.46587, PMID - 24799681, RIF(s):  9606 2 24799681 2014-07-19 10:46:00 alpha2M is a specialized chaperone that prevents the extracellular accumulation of misfolded and potentially pathogenic proteins, particularly during innate immune system activity  (Distance: 0.46376, Record: SENT\_14608357-9606-9)  Distance - 0.46376, PMID - 14608357, RIF(s):  9606 9 14608357 2010-01-21 00:00:00 A putative RUNX1 binding site variant of NAT9 is associated with susceptibility to psoriasis  (Distance: 0.45955, Record: SENT\_18069763-9606-9)  Distance - 0.45955, PMID - 18069763, RIF(s):  9606 9 18069763 2010-01-21 00:00:00 findings indicate an association between inflammation and suppression of NAT1 in cholangiocarcinoma cells, which perhaps contributes to chemical-mediated toxicity and carcinogenesis.  (Distance: 0.44502, Record: SENT\_20628863-9606-9)  Distance - 0.44502, PMID - 20628863, RIF(s):  9606 9 20628863 2011-02-26 11:32:00 Only NAT1 showed a significant lower DNA methylation rate in the control group than in the tamoxifen-resistant breast cancer group, and no significant difference in methylation was found in COMT, CYP1A1, CYP2D6, and SULT1A1 genes. | Query: **Gene - 9**, Pubmed ID - 25886288, RIF - NAT1 genetic polymorphisms were found to be a risk factor for smokers in the Black population of South Africa with esophageal squamous cell carcinoma.  Most similar RIFs **(BETWEEN-GENES)** to query RIF - (SENT\_25886288-9606-9, **NAT1 genetic polymorphisms were found to be a risk factor for smokers in the Black population of South Africa with esophageal squamous cell carcinoma**.):  (PMID - 12122002, **Distance - 0.817768573761**, Gene - 634, RIF - inhibition of prostate tumor angiogenesis by the tumor suppressor CEACAM1)  (PMID - 25523495, **Distance - 0.817564845085**, Gene - 567, RIF - Unfolding of the C-terminal portion of human beta 2 microglobulin may be related to amyloidogenicity.)  (PMID - 17703232, Distance - 0.815071940422, Gene - 356, RIF - Variants of human TRAIL (hTRAIL) and human CD95L (hCD95L), encompassing the TNF homology domain (THD), interact with the corresponding receptors and stimulate CD95 and TRAILR2 signaling after cross-linking.)  (PMID - 19424874, Distance - 0.802027642727, Gene - 627, RIF - Observational study of gene-disease association. (HuGE Navigator))  (PMID - 23275297, Distance - 0.79985165596, Gene - 103, RIF - functional serial transplantation and shRNA studies demonstrate that ADAR1 knockdown impaired in vivo self-renewal capacity of blast crisis CML progenitors)  (PMID - 18239197, Distance - 0.797525167465, Gene - 348, RIF - Clinical trial of gene-disease association, gene-environment interaction, and pharmacogenomic / toxicogenomic. (HuGE Navigator))  (PMID - 24415197, Distance - 0.793214321136, Gene - 343, RIF - mtAQP8 knockdown induces necrotic cell death in human neoplastic hepatic cells, a finding that might be relevant to therapeutic strategies against hepatoma cells.)  (PMID - 25359904, Distance - 0.793135404587, Gene - 331, RIF - Our results suggest that PTD-mediated delivery of IAPs may have clinical potential, not only for radioprotection but also for rescuing the GI system from radiation injuries.)  (PMID - 20200439, Distance - 0.790045380592, Gene - 367, RIF - No associations between ancrogen receptor CAG repeat length and the risk of biliary tract cancers and stones were found)  (PMID - 25380580, Distance - 0.787759959698, Gene - 467, RIF - ATF-3 was associated with Runx2 promoter in MDA-MB231 cells.) |
| ***WITHIN-GENE*** TRAINING, ***WITHIN-GENE*** SIMILARITIES | ***ACROSS-GENE*** TRAINING, ***WITHIN-GENE*** SIMILARITIES |
| Query: **Gene - 9**, Pubmed ID - 25886288, RIF - NAT1 genetic polymorphisms were found to be a risk factor for smokers in the Black population of South Africa with esophageal squamous cell carcinoma.  Most similar RIFs **(WITHIN-GENES)** to query RIF - (SENT\_25886288-9606-9, **NAT1 genetic polymorphisms were found to be a risk factor for smokers in the Black population of South Africa with esophageal squamous cell carcinoma.**):  (PMID - 23569127, **Distance - 0.564137101173**, RIF - This meta-analysis suggests that there was no association between the NAT1\*10 allele and bladder cancer risk.)  (PMID - 23517104, **Distance - 0.532046794891**, RIF - Data suggest that NAT1/NAT2 participate in biotransformation of many aromatic/heterocyclic amines; molecular models have been developed regarding acetylation mechanism, active site structure, and substrate/inhibitor-binding specificity. [REVIEW])  (PMID - 19143007, Distance - 0.501248478889, RIF - Although expression of activating and/or detoxifying enzymes (CYP1B1, NAT1, and COMT) may be higher in the peripheral zone of the prostate, PAH-DNA adduct levels appear to be similar in peripheral zone and transition zones.)  (PMID - 14672957, Distance - 0.461180925369, RIF - cellular generation of peroxynitrite may contribute to carcinogenesis and tumor progression by weakening key cellular defense enzymes such as arylamine N-acetyltransferase 1 (NAT1))  (PMID - 20176657, Distance - 0.457443237305, RIF - HSF1 is an important transcription factor for induction of NAT1 in human cells and is required for androgen activation of the NAT1 promoter.)  (PMID - 19834256, Distance - 0.436605513096, RIF - Observational study of gene-disease association and gene-environment interaction. (HuGE Navigator)  Slow metabolic phenotype of NAT1 combined with slow or intermediate NAT2 phenotype increases risk for occupational dermatitis)  (PMID - 16507510, Distance - 0.434517085552, RIF - The kinetics of inhibition of NAT1 by caffeic acid, EGCG and quercetin were of the non-competitive type, whereas that of NAT2 by quercetin, curcumin and kaemferol was also of the non-competitive type)  (PMID - 22114069, Distance - 0.408724308014, RIF - NAT1 is transcribed from a major promoter, NATb, and an alternative promoter, NATa, resulting in messenger RNAs (mRNAs) with distinct 5'-untranslated regions (UTRs).)  (PMID - 19368118, Distance - 0.373168051243, RIF - Observational study of gene-disease association, gene-gene interaction, and gene-environment interaction. (HuGE Navigator)  Oxidative stress and cigarette smoking may play an important role in the carcinogenesis of the prostate in those who have MnSOD AA and rapid NAT1 genotypes.)  (PMID - 12485520, Distance - 0.361659497023, RIF - NAT1 \* 10 has increased risk of sporadic colorectal adenocarcinoma and significantly related to the later stage tumors, is not significantly related to the tumor location  Observational study of gene-disease association. (HuGE Navigator)) | Query GeneRIF: PMID - 25886288, **Gene - 9**, RIF - NAT1 genetic polymorphisms were found to be a risk factor for smokers in the Black population of South Africa with esophageal squamous cell carcinoma.  Indices [109, 9, 47, 73, 31, 78, 95, 91, 28, 20]  Distances [1.0, 0.71525, 0.583, 0.44019, 0.38527, 0.37661, 0.36872, 0.35441, 0.34368, 0.32385]  Most similar RIFs (**WITHIN-GENE**) to query RIF - (SENT\_25886288-9606-9, PMID - 25886288, Gene - 9, RIF - **NAT1 genetic polymorphisms were found to be a risk factor for smokers in the Black population of South Africa with esophageal squamous cell carcinoma.**):  (**Distance: 1.0,** Record: PMID - 25886288, Gene - 9, RIF - NAT1 genetic polymorphisms were found to be a risk factor for smokers in the Black population of South Africa with esophageal squamous cell carcinoma.)  (**Distance: 0.71525**, Record: PMID - 12052143, Gene - 9, RIF - susceptibility gene for multifactorial adverse effects and xenobiotic-related diseases (review))  (Distance: 0.583, Record: PMID - 17537267, Gene - 9, RIF - This study did not demonstrate an association between NAT1 polymorphisms and inflammatory bowel diseases or sporadic colorectal cancer)  (Distance: 0.44019, Record: PMID - 19549810, Gene - 9, RIF - We investigated the modifying effects of NAT1 and NAT2 polymorphisms on the association of meat consumption, heterocyclic amine intake, and smoking with colorectal cancer risk.)  (Distance: 0.38527, Record: PMID - 15523664, Gene - 9, RIF - NAT1 polymorphism and lack of maternal multivitamin use increasescrisks of isolated cleft lip with/without cleft palate)  (Distance: 0.37661, Record: PMID - 19956635, Gene - 9, RIF - Uncategorized study of gene-disease association, gene-environment interaction, and pharmacogenomic / toxicogenomic. (HuGE Navigator))  (Distance: 0.36872, Record: PMID - 23160945, Gene - 9, RIF - Smoking, variation in N-acetyltransferase 1 (NAT1) and 2 (NAT2), and risk of non-Hodgkin lymphoma.)  (Distance: 0.35441, Record: PMID - 22327651, Gene - 9, RIF - meta-analysis wasn't able to detect a significant association between polymorphisms in NAT1 and predisposition to colorectal carcinoma)  (Distance: 0.34368, Record: PMID - 15039438, Gene - 9, RIF - NAT1 exists in the cell in either a stable acetylated state or an unstable non-acetylated state and mutations in the NAT1 gene that prevent protein acetylation produce a slow acetylator phenotype)  (Distance: 0.32385, Record: PMID - 12832400, Gene - 9, RIF - Oxidative stress and cellular redox status may regulate NAT1 activity and have important consequences with regard to drug biotransformation and cancer risk.) |