Document details

‹ Back to results | 1 of 1

Export Download Print E-mail Save to PDF Add to List More... ›

Asia-Pacific Journal of Molecular Biology and Biotechnology Open Access
Volume 28, Issue 1, 2020, Pages 90-100

Trihoney ameliorates hypercholesterolemia-induced epididymal histopathological changes in male rabbits (Article)

Mohamed, Z.B.H.[a], Ibrahim, M.B.[a], Alfarisi, H.A.H.[a], Wahab, A.Y.A.[b], Fuaat, A.B.A.[c], Mohamad, C.A.C.[d]

[a]Department of Nutrition Sciences, Kulliyyah of Allied Health Sciences, International Islamic University Malaysia, Kuantan, Pahang 25200, Malaysia
[b]Department of Obstetrics and Gynaecology, Kulliyyah of Medicine, International Islamic University Malaysia, Kuantan, Pahang 25200, Malaysia
[c]Department of Pathology & Laboratory Medicine, International Islamic University Malaysia Medical Centre, Kuantan, Pahang 25200, Malaysia

View additional affiliations ⌄

Abstract

View references (35)

Hypercholesterolemia has been linked to weight change and histopathological alteration of male reproductive organs. The epididymis was suggested to be an early target of lipid-related infertility and can be dramatically affected by excess intake of a high cholesterol diet. On the other hand, the interest has been increased towards the use of honey as a prophylactic and therapeutic agent for various diseases. Therefore, the purpose of this study is to investigate the effects of Trihoney (a mixture of Trigona, Mellifera and Tualang) on epididymal weight change and histopathological alterations in hypercholesterolemic male rabbits and compare its effects with atorvastatin. Forty-eight mature male New Zealand white rabbits were divided into 6 groups. Two groups received standard rabbit pellet with 0 and 0.6 g/kg/day of Trihoney respectively while the other four groups received 1% cholesterol diet with 0, 0.3, 0.6 g/kg/day of Trihoney, and 2 mg/kg/day of atorvastatin. After 12 weeks, the rabbits were sacrificed and the epididymides were harvested for evaluation of weight and histopathological changes. Administration of 1% cholesterol diet either alone or in combination with atorvastatin caused a significant reduction in the epididymal weight and epididymal atrophy. Supplementation of Trihoney particularly at the dose of 0.6 g/kg/day improved epididymal weight, regained the normal architecture of the epididymal histology and increased the number of mature sperm inside the tubules of the epididymis. Based on these results, Trihoney exhibited its potential health benefit as a protective agent against epididymal weight reduction and histopathological alterations in hypercholesterolemic rabbits.

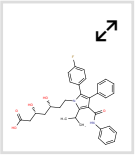
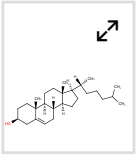
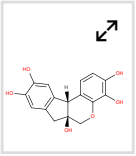
SciVal Topic Prominence

Topic: Manukum Honey | Leptospermum Scoparium | Stingless Bee

Prominence percentile: 95.758

Chemistry database information

Substances

Metrics

View all metrics ›

PlumX Metrics

Usage, Captures, Mentions, Social Media and Citations beyond Scopus.

Cited by 0 documents

Inform me when this document is cited in Scopus:

Set citation alert ›

Set citation feed ›

Related documents

Testosterone level and histological features of tualang honey and nicotine treated male rats

Noorhafiza, R. , Majid, A.M. , Hashida, N.H.
(2013) Biomedical Research (India)

Kelulut honey supplementation prevents sperm and testicular oxidative damage in streptozotocin-induced diabetic rats

Budin, S.B. , Jubaidi, F.F. , Azam, S.N.F.M.N.
(2017) Jurnal Teknologi

Manchette-acrosome disorders during spermiogenesis and low efficiency of seminiferous tubules in hypercholesterolemic rabbit model

Simón, L. , Funes, A.K. , Yapur, M.A.
(2017) PLoS ONE

View all related documents based on references

Find more related documents in Scopus based on:

Authors › Keywords ›

Author keywords

Atorvastatin | Epididymis | Histology | Hypercholesterolemia | Trihoney

ISSN: 01287451
Source Type: Journal
Original language: English

Document Type: Article
Publisher: University of Malaya

References (35)

View in search results format >

All | Export | Print | E-mail | Save to PDF | Create bibliography

1 Abdul-Ghani, A.-S., Dabdoub, N., Muhammad, R., Abdul-Ghani, R., Qazzaz, M.

Effect of Palestinian honey on spermatogenesis in rats

(2008) *Journal of Medicinal Food*, 11 (4), pp. 799-802. Cited 34 times.
doi: 10.1089/jmf.2008.0085

View at Publisher

2 Alzubaidi, N.A.K., Diwan, M.A.A.
The effect of taurine on reproductive efficiency in male rats fed high cholesterol diet
(2013) *Basrah Journal of Veterinary Research*, 12 (1), pp. 30-40. Cited 3 times.

3 Anderson, A.L., Stanger, S.J., Mihalas, B.P., Tyagi, S., Holt, J.E., McLaughlin, E.A., Nixon, B.

Assessment of microRNA expression in mouse epididymal epithelial cells and spermatozoa by next generation sequencing (Open Access)

(2015) *Genomics Data*, 6, pp. 208-211. Cited 14 times.
http://www.journals.elsevier.com.ezproxy.um.edu.my/genomics-data/
doi: 10.1016/j.gdata.2015.09.012

View at Publisher

4 Ashrafi, H., Ghabili, K., Alihemmati, A., Jouyban, A., Shoja, M.M., Aslanabadi, S., Adl, F.H., (...), Hajhosseini, L.

The effect of quince leaf (Cydonia oblonga miller) decoction on testes in hypercholesterolemic rabbits: a pilot study.

(2013) *African journal of traditional, complementary, and alternative medicines : AJTCAM / African Networks on Ethnomedicines*, 10 (2), pp. 277-282. Cited 13 times.

View at Publisher

5 Bataineh, H.N., Nusier, M.K.

Effect of cholesterol diet on reproductive function in male albino rats

(2005) *Saudi Medical Journal*, 26 (3), pp. 398-404. Cited 26 times.

6 Bustan, A., Jawad, A.
The effect of two types of statins (Rosuvastatin and atorvastatin) on the fertility of male and female mice
(2017) *British Journal of Medicine and Medical Research*, 19 (12), pp. 1-11. Cited 3 times.