

Regulasi ekspresi mRNA gelsolin pada epididimis mencit (musculus): studi pendahuluan perannya dalam proses pematangan sperma = Regulation of gelsolin mRNA expression in mouse epididymis (mus musculus): a preliminary study of its role in sperm maturation process / Syaifiyatul H.

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Abstrak

[ABSTRAK

Latar belakang: Pematangan sperma di epididimis terjadi melalui interaksi antara protein yang disekresikan oleh epitel dengan spermatozoa. Proses tersebut diregulasi oleh androgen dan lingkungan spesifik di region epididimis. Androgendependent gene yang hanya terekspresi di region tertentu namun tidak terekspresi di region lain menimbulkan dugaan peran androgen reseptor (AR) koregulator. Gelsolin (Gsn) adalah AR koregulator ditemukan predominan di epididimis Holstein, namun perannya masih belum diketahui. Penelitian ini bertujuan untuk mengkarakterisasi Gsn pada epididimis mencit.

Metode: In silico untuk memprediksi struktur gen dan domain fungsional.

Quantitative Real Time RT-PCR untuk menganalisa sebaran jaringan, ketergantungan terhadap faktor endokrin dan faktor testikular, dan regulasi postnatal.

Hasil: Gsn merupakan protein yang mengandung signal peptide. Ekspresi Gsn tidak spesifik di epididimis. Gsn dipengaruhi oleh androgen dan faktor testikular. Pasca gonadektomi, ekspresi Gsn menurun setelah 3 hari dan injeksi T eksogen meningkatkan ekspresi Gsn. Hasil ini diperkuat dengan pemberian flutamide yang menurunkan ekspresi Gsn. Ekspresi Gsn pada perkembangan individu konstan postnatal 5 hari.

Kesimpulan: Gsn adalah protein yang disekresikan oleh epitel epididimis, diregulasi oleh androgen dan faktor testikular. Ekspresi Gsn yang tidak spesifik pada region tertentu di epididimis, diperlukan penelitian lanjut untuk mengetahui peran Gsn dalam menentukan ekspresi gen-gen yang terlibat dalam pematangan sperma.

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ABSTRACT

Background: Sperm maturation in epididymis occurs through interaction between proteins secreted by epithels with spermatozoa. The process is regulated by androgen and specific environment in epididimal region. The androgendependent gene that is only expressed in a particular region, but not expressed in other regions led to allegations of androgen receptor (AR) coregulator action. Gelsolin (Gsn) is AR coregulator found predominant in epididimal Holstein, but

its role still unknown. The aim is to characterize Gsn in mouse epididymis.

Methods: In silico analyses to predict gene structure and functional domain.

Quantitative Real Time RT-PCR to analyse tissue distribution, androgen dependent, testicular factor and postnatal regulation.

Results: Gsn is protein that contains signal peptide. Gsn is not specific expressed in epididymis. It is regulated by androgen and testicular factor. Post gonadectomy, Gsn expression decrease in 3 days while injected by T exogen increasing Gsn expression. This expression confirmed by flutamide that decreasing Gsn expression. Gsn expression was constant at day 5 in postnatal development.

Conclusions: Gsn is protein that secreted by epididymal epithels and regulated by androgen and testicular factor. Gsn expression was not specific in epididymal region. It is needed to do future research to know the role of Gsn in determining genes expression that related to sperm maturation, Background: Sperm maturation in epididymis occurs through interaction

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