

**Bidang Kesehatan dan Ilmu  
Keperawatan**

**LAPORAN HASIL PENELITIAN  
HIBAH PENELITIAN TIM PASCASARJANA-HPTP  
(HIBAH PASCA)**



**Eksplorasi Karakter Molekul Inhibin B Hasil Isolasi Dari Kultur Sel Sertoli *Rattus norvegicus*: Upaya Pengembangan Kontrasepsi berbasis Hormonal Peptida Pada Pria**

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1. Judul Penelitian : Eksplorasi Karakter Molekul Inhibin B Hasil Isolasi Dari Kultur Sel Sertoli *Rattus norvegicus*: Upaya Pengembangan Kontrasepsi berbasis Hormonal Peptida Pada Pria

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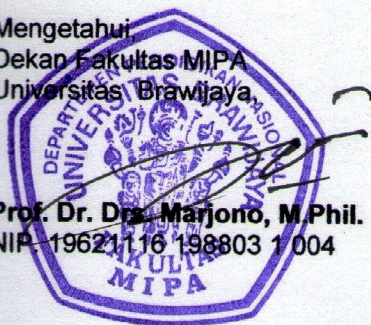
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## ABSTRACT

The purpose of this study is to isolate, identify, and characterize the inhibin B protein of *Rattus norvegicus* Sertoli cell culture. In this research, culture of Sertoli cell using by DMEM medium + FCS 15%. Confirmation of inhibin B protein from Sertoli cell culture by dot blot technique used inhibin B polyclonal antibody. Identification and characterization of inhibin B protein from Sertoli cell culture by SDS PAGE. The result of this studies showed that Sertoli cell culture is the source of inhibin B protein with molecular weight of 175, 163, 153, 81, 78, 66, dan 29 kDa.

**Key words:** Inhibin B, male hormonal contraception

## RINGKASAN

Sungguh tidak dapat dipungkiri bahwa pertumbuhan penduduk di dunia dewasa ini meningkat secara drastis dan fantastis. Sebagai negara yang sedang berkembang, fenomena ini nampaknya juga dialami oleh Indonesia dimana terdapat adanya kecenderungan peningkatan pertumbuhan penduduk dari tahun ke tahun. Apabila hal ini tidak diantisipasi, maka dikhawatirkan akan terjadi ledakan penduduk (*baby boom*) di dunia maupun Indonesia dengan berbagai dampaknya. Program keluarga Berencana (KB) yang pernah dicanangkan oleh pemerintah ternyata belum mampu menekan pertumbuhan penduduk yang terus mengkhawatirkan. Salah satu faktor yang menyebabkan kegagalan program KB adalah rendahnya apresiasi dan partisipasi pria untuk menggunakan kontrasepsi.

Untuk menanggulangi hal ini, diperlukan upaya-upaya yang konsisten, kontinu, terarah, terukur, dan sistematis untuk menemukan kandidat-kandidat baru kontrasepsi khususnya kontrasepsi hormonal pada pria. Saat ini, di beberapa belahan dunia (Eropa, Amerika, Afrika, China, dan India) terus diujikembangkan kandidat-kandidat kontrasepsi hormonal pria baru yang aman, efektif, praktis, dan akseptabel.

Penelitian yang diusulkan ini direncanakan akan dilaksanakan selama 3 (tiga) tahun. Penelitian pada **tahun pertama (sudah dijalankan)** difokuskan pada produksi isolat inhibin B melalui serangkaian proses yang dimulai dari isolasi, karakterisasi dan purifikasi, pengukuran kandungan protein, glikoprotein dan karbohidrat, dan pengukuran kadar isolat inhibin B. Pada **tahun kedua** penelitian akan dilanjutkan dengan uji potensi isolat inhibin B yang didapat pada tahun I sebagai kandidat kontrasepsi berbasis hormonal peptida pada pria. Uji ini akan dilakukan secara *invivo* dengan menggunakan hewan coba *Rattus norvegicus* dengan mengukur variabel: motilitas, konsentrasi, dan persentase spermatozoa yang hidup. Selain itu, juga diukur kadar serum inhibin B, FSH, LH, dan testosteron. Sedangkan pada **tahun ketiga**, akan dilakukan uji potensi isolat inhibin B sebagai kandidat kontrasepsi berbasis hormonal peptida pada pria dengan melakukan uji fertilisasi baik secara *invitro* maupun *invivo* dengan menggunakan *Rattus norvegicus* sebagai hewan coba.

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