

**POTENSI ANTIDEPRESAN MIKROALGA *Chlorella vulgaris*
Beijerinck PADA TIKUS (*Rattus norvegicus* Berkenhout, 1769)
WISTAR**

Oleh:

Gisella Intan Soetantyo

INTISARI

Chlorella vulgaris telah digunakan sebagai suplemen kesehatan yang tinggi antioksidan. Antioksidan dapat mencegah pengaruh buruk radikal bebas dalam tubuh. Salah satu efek dari radikal bebas adalah stress yang dapat berujung pada depresi. Antidepresan yang tersedia saat ini dapat menimbulkan efek samping yang tidak nyaman bagi penderita. Penelitian ini bertujuan untuk mengetahui potensi antidepresan *Chlorella vulgaris* terhadap hewan model *Rattus norvegicus* setelah pemberian selama 14 hari. Hewan model sebanyak 25 ekor diberi perlakuan *Chronic Unpredictable Mild Stress* selama 42 hari kemudian dibagi menjadi 5 kelompok yaitu kelompok kontrol, kelompok kontrol negatif, kelompok kontrol positif dengan amitriptilin, kelompok *Chlorella vulgaris* hasil budidaya dan kelompok *Chlorella* komersial. Parameter utama adalah tes perilaku berupa *Sucrose Preference Test*, *Open Field Test* dan *Forced Swim Test* serta data organ kelenjar adrenal dengan parameter pendukung berupa berat badan dan kadar glukosa hewan selama penelitian. Analisis data menggunakan uji statistik *one way ANOVA* dan uji lanjutan *Duncan Multiple Range Test* dan *Games-Howell* pada tingkat kepercayaan 95%. Hasil penelitian menunjukkan *Chlorella vulgaris* berpotensi mengembalikan keadaan stress hewan coba ke normal. Selain itu baik *Chlorella vulgaris* hasil budidaya maupun komersial memberikan efek yang sama dengan efek yang ditimbulkan oleh antidepresan amitriptilin.

Kata kunci : *Chlorella vulgaris*, depresi, antidepresan, kelenjar adrenal, stress

**ANTIDEPRESSANT POTENCY OF MICROALGAE *Chlorella vulgaris* Beijerinck IN RAT (*Rattus norvegicus* Berkenhout, 1769)
WISTAR**

By:

Gisella Intan Soetantyo

ABSTRACT

Chlorella vulgaris. has been used for health supplement due to its high antioxidant content. The antioxidant can prevent adverse effects of free radicals in our body. One of these effects is stress which can lead to depression. Currently available antidepressants are causing unfavorable side effects to its patients. This study aims to understand the antidepressant potential of *Chlorella vulgaris*. in animal model *Rattus norvegicus* after 14 days of administration. 25 animal model which has been treated with Chronic Unpredictable Mild Stress procedure were grouped into 5 groups named control, negative control, positive control (amitriptyline), cultivation-sourced *Chlorella vulgaris* and commercially sold *Chlorella vulgaris*. Main parameters were behavioral test consisted of Sucrose Preference Test, Open Field Test and Forced Swim Test with adrenal glands as additional data. Body weight and blood glucose were also measured as supporting evidence. Data analysis was done using one way ANOVA with Duncan Multiple Range Test and Games-Howell test as post-hoc on 95% confidence level. Results obtained indicate that *Chlorella vulgaris*. has the potential to revert back the stress condition of an animal model to its normal state. Besides that, it is also made known that both types of *Chlorella vulgaris*. supplied the same antidepressant effect compared to amitriptyline.

Keywords : *Chlorella vulgaris*, depression, antidepressant, adrenal gland, stress

