

## **UNIVERSA MEDICINA**

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Jakarta, 13 Februari 2013

Perihal

: Surat Keterangan Terima Makalah

Lamp.

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Kepada Yth:

Sdra. Nour Athiroh Abdoes Sjakoer

Jurusan Biologi

Fakultas Matematika dan Ilmu Pengetahuan Alam

Universitas Islam Malang

Malang, Jawa Timur

Dengan hormat,

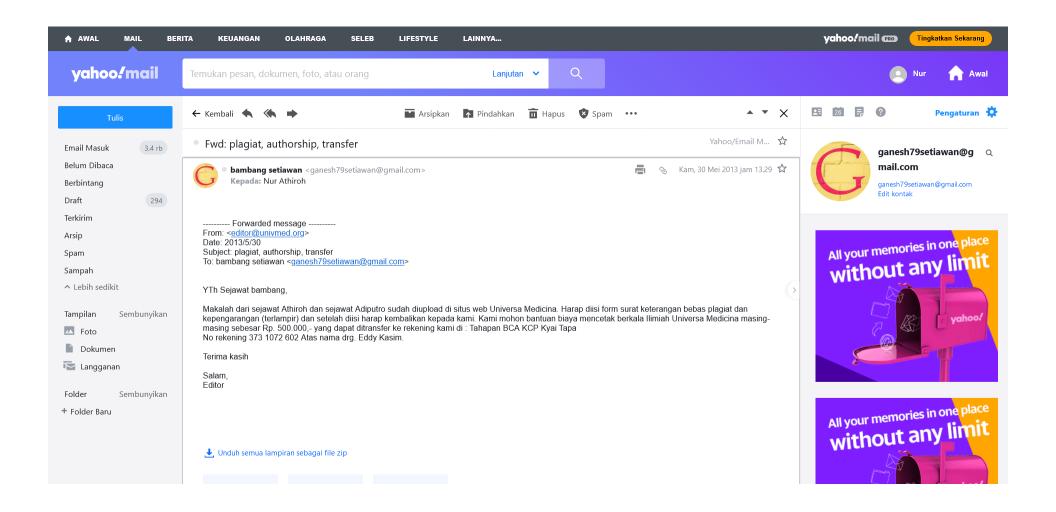
Terima kasih atas kiriman makalah Sejawat yang berjudul: "PERAN BENALU TEH TERHADAP NITRIC OXIDE (NO) DAN MALONDEALDEHYDE (MDA) PARU PADA TIKUS HIPERTENSI". Makalah tersebut sudah diterima dan akan direview oleh Mitra Bestari dari Universa Medicina.

Sekian dan terima kasih atas perhatian Saudara pada Universa Medicina.

Hormat kami,

Pemimpin Redaksi Universa Medicina

Prof. DR. Dr. Adi Hidayat, MS



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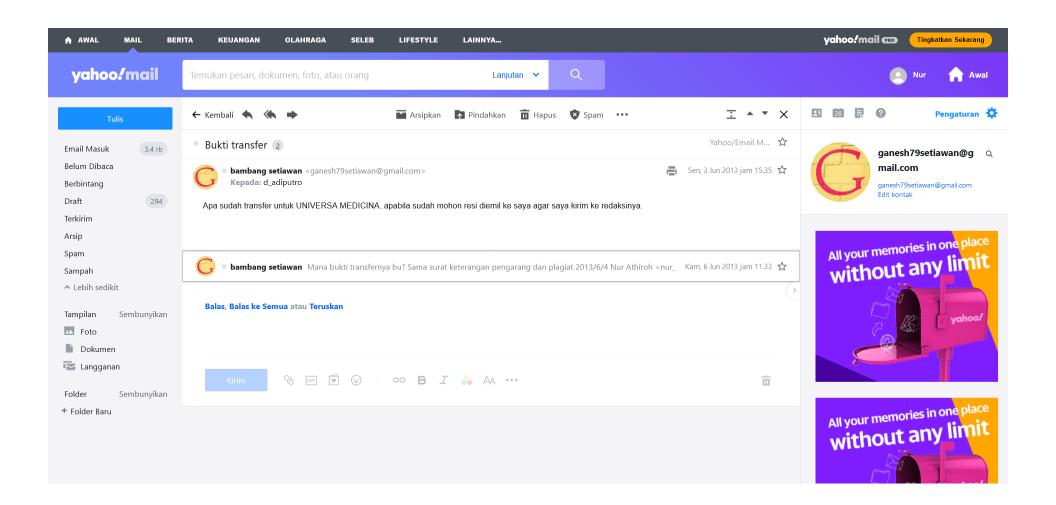
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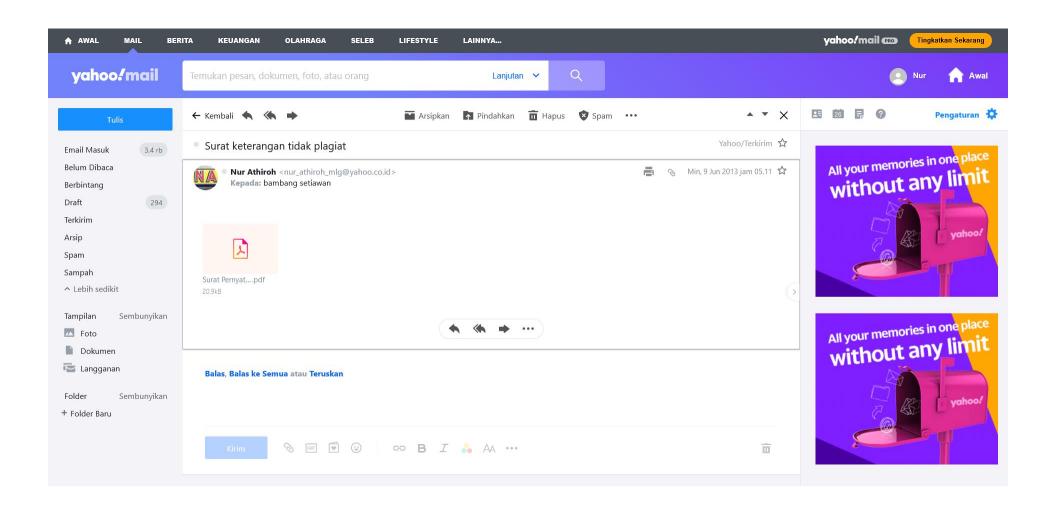
### Surat Pernyataan Kontribusi Kepengarangan

Kami yang bertandatangan dibawah ini menyatakan bahwa telah berkontribusi dalam hal:
i)menyusun konsep; ii) menyusun rancangan penelitian; iii) pengumpulan data; iv) analisis data
v) interpretasi data; vi) penanggung jawab pengumpulan data di lapangan; vii) mempersiapkan
makalah; dan viii) merevisi makalah akhir untuk dipublikasi (final approval of the version to be
published) (Pilihlah/lingkarilah sesuai dengan kontribusi penulis) pada makalah berjudul
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Yang menyatakan

## Surat Pernyataan Bebas Plagiat

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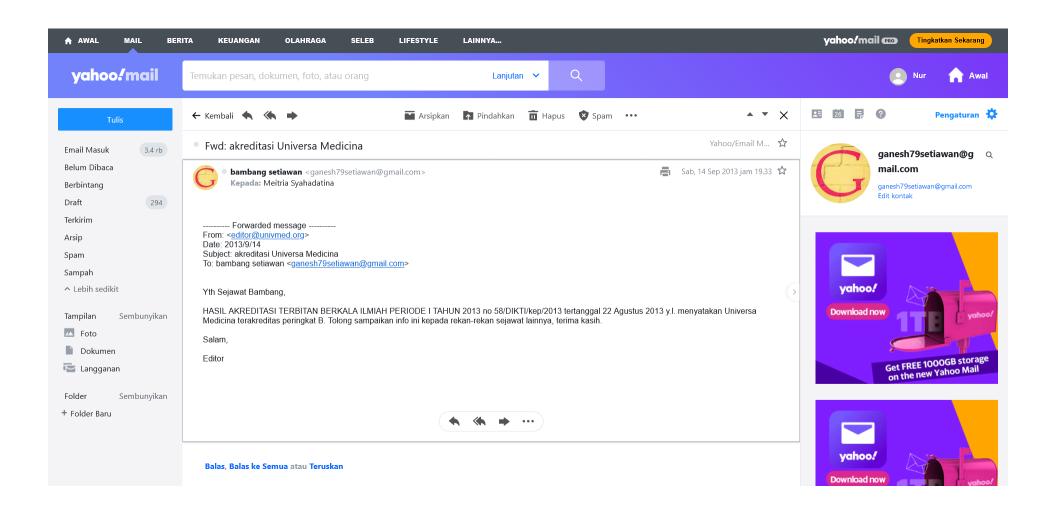
### **Surat Pernyataan Bebas Plagiat**

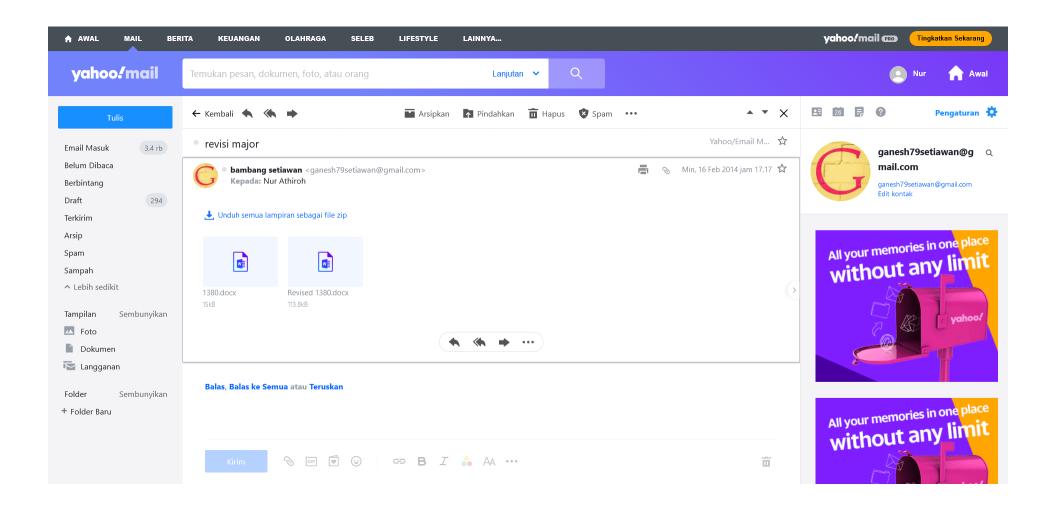
Kami yang bertandatangan di bawah ini menyatakan bahwa karya ilmiah berjudul: *Scurulla atropurpurea* increases *Nitric Oxide* and decreases *Malondealdehyde* in hypertensive rats yang akan dipublikasi di Universa Medicina. Apabila dikemudian hari terbukti terdapat plagiat dalam karya ilmiah tersebut, maka kami bersedia menerima sanksi sesuai ketentuan peraturan perundang-undangan.

Malang, 5 Juni 2013

Yang menyatakan,

(Nour Athiroh AS)





# Effect of *Scurrula Atropurpurea* on Nitric Oxide, Endothelial Damage, and Endothelial Progenitor Cells of DOCA-salt Hypertensive Rats

- 1-in abstract: what does it mean "sham group"?
- 2- In abstract and main text it was mentioned that nitric oxide was measured but it is not determined in serum or plasma or ...?
- 3- How do the authors use MESA? The route? and dosage? It should be chosen based on references.
- 4-in the "materials and Methods" the sentences in measurements of circulating endothelial cell and endothelial progenitor cells were repeated.
- 5- since the authors measured the nitrite level (not niteic oxide), it is better to correct the figures and text.
- 6- In results, it is mentioned that the nitric oxide level in hypertensive group is lower than sham group, while in figure 1 it seems that it is not statistically significant. In addition, in figure 2 it was mentioned that there are significant differences between MESA 100 and 200 with hypertensive group, however, it seems there are no significant differences (based on the data in figure 2).
- 7- In results the authors mentioned that MESA significantly increased endothelial progenitor cells however, it did not reach to sham group, while in figure 2, we can see the opposite results.
- 8-The discussion should be focused on the results of the present study and other related studies, specially studies in Iran.

#### **ABSTRACT**

This study aimed to investigate whether methanolic extract of Scurrula atropurpurea (BL.) Dans. able to modulate nitric oxide level, decrease endothelial damage, and increase endothelial progenitor cells in hypertensive rats. This study subjected rats to DOCA-induced hypertension. The experimental groups consisting of the control group and three DOCA-salt hypertensive groups receiving methanolic extract of Scurulla atropurpurea (MESA) at a dosage of 50; 100; and 200 mg/KgBW. The levels of serum nitric oxide (NO) was analyzed by colorimetric method. The number of circulating endothelial cells (CECs) and endothelial progenitor cells (EPCs) were analyzed using flow cytometry. ANOVA and a post hoc test were applied to find the difference of serum NO, CECs, and EPCs levels between groups. The NO level and EPCs number were significantly (p < 0.05) decreased in DOCA-salt hypertensive rats compared to sham group. The administration of MESA<sub>100</sub> and MESA<sub>200</sub> elevated the nitric oxide levels but can not reach the level in sham group. The administration of MESA<sub>100</sub> and MESA<sub>200</sub> elevated the endothelial progenitor cells number, but can not reach the level in sham group. The administration of DOCA salt affected the circulating endothelial cells number. There were significantly (P < 0.05) increased circulating endothelial cells levels in hypertensive rats compared to sham group. The administration of MESA significantly (P < 0.05) decreased the circulating endothelial cells number compared to hypertensive groups. Methanolic extract of Scurrula Atropurpurea able to modulate nitric oxidate, diminished endothelial damage via increasing endothelial progenitor cells.

Key words: mistletoe, nitric oxide, endothelial damage, hypertension, rats

**RUNNING TITLE:** 

Scurrula Atropurpurea on Nitric Oxide, Endothelial Damage, and Endothelial Progenitor Cells of Hypertensive Rats

