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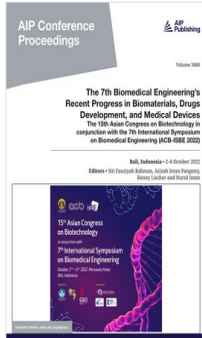
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RESEARCH ARTICLE | MARCH 07 2024

The effectiveness of grape seed extract on the liver and heart organs of white rats exposed to formaldehyd on malondialdehyd and histopathology 🛒

Ana Hidayati Mukaromah ✉; Yulita Maulani; Sri Suhartati; Arifiani Agustini Amalia; Mudyawati Kamaruddin; Vani Intan Krismoni Wiyarti; Fandhi Adi Wardoyo

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Excessive formaldehyde exposure can lead to increase oxidative stress that causes damage to body cells. The purpose of this research is to reveal the effectiveness of grape seed ethanol extract on malondialdehyde levels and histopathology in liver and heart rats after exposure to oral formaldehyde. 30 male Wistar rats were divided into 5 groups. For 21 days all groups were exposed to 5mg/200g formaldehyde except the negative control group. Three treatment groups received ethanolic extracts of grape seeds at doses of 35, 70, and 140mg/200g BWrats/day, respectively. The results showed that the administration of EBA can improve the liver exposed to oral formaldehyde.



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The effectiveness of *Red grape Seed* extract on kidney organ of white rats exposed to formaldehyde

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The Effectiveness of *Red Grape Seed* Extract on Kidney Organ of White Rats Exposed to Formaldehyde

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Abstract. Even though it is acidic, formalin can harm the body and even cause cancer when it is consumed through food. Continuous consumption of formalin, which causes an excessive synthesis of reactive oxygen species (ROS) and activates oxidative stress, might harm the kidneys. Malondialdehyde (MDA) levels that are higher or histological alterations in the renal tissue might both indicate changes in kidney parameters. Using proanthocyanidins to prevent kidney damage, grape seed extract contains flavonoids such proanthocyanidin oligomers, which are 50 times more abundant than vitamins C and E. 10% of the grape flesh extract contains polyphenols, compared to 60%–70% in the seeds and 28–35% in the grape skin. Effective secondary metabolites, such as polyphenols, have positive effects on human health, including anti-inflammatory, antiviral, anticancer, and antioxidant capabilities. Water makes up 28–44% of the weight of grape seeds, which have a dry matter content of 71.5%. Grapeseed oil benefits human health, notably in the treatment of acute and chronic illnesses. One sign of kidney damage is adjustments in the histological structure of the kidneys, such as tubulointerstitial damage in the form of dilatation, interstitial inflammation, fibrosis, and necrosis. Kidneys are organs that function in removing toxic or toxic substances and maintaining a balance of fluids and substances that are useful for the body. Degeneration, hyperplasia, necrosis, and inclusions are indicators of kidney damage, as are tubular lumen dilation, accumulation of debris cells in the lumen, tubular lumen vacuolization, enlargement of Bowman's gap, and inclusions. formalin exposure of 25 mg/kg BB rats/day for 22 days versus no formalin exposure. Knowing the MDA concentrations and histological characteristics of the kidney tissues of rats treated for 22 days with 0.035 grape ethanol seed extract, 0.070 and 0.140g/BW rat/day and subjected to 25mg/kg BW of formalin. Find the optimal dose of grape seed ethanol extract to lower MDA levels and enhance the histological picture of the kidney organs of rats that were given formalin exposure. With a post-test only control group design, this study is an experimental lab research. The 30 white rats used as the sample population were separated into 5 treatment groups, each containing 5 rats and 1 reserve rat. The data on the findings of the MDA levels and the results of the histopathological score were then examined using the computer program SPSS 26.0. The study's findings revealed that MDA levels in rats subjected to formalin were higher than those in the negative controls, while the histopathological findings in the formalin-exposed group revealed necrotic damage. Therapy Increased concentrations of grape seed extract reduced MDA levels by an average of 7.3732, 4.8664, and 4.5605 as well as percentages of 30.27%, 53.98%, and 57.98%. They also improved the histological features of the rat kidney, particularly the glomerular features. The greatest daily dose was 0.140g/BW rat/red grape seed ethanol. The concentration of red grape seed ethanol extract that was successful in lowering MDA levels was 57.98%, and it also improved the histopathological picture of the rats at 0.140g/BW rats/day.

Keywords: formalin, histopathology, kidney, MDA, red grape seed extract.

INTRODUCTION

Formalin is the registered trademark for formaldehyde, which is used to preserve corpses and, more recently, to preserve food [1]. The Republic of Indonesia's Minister of Health's Regulation No. 033 of 2012 Concerning Food

Additives states that formalin is a component added to food with the intention of changing the food's nature and form. [17]. Even though formaldehyde is corrosive, when food containing it is ingested, it can produce moderate symptoms including dizziness, vomiting up to blood, and kidney, liver, and brain damage. It is also bad for digestion, respiration, neurology, and cancer. Reactive oxygen species (ROS) can be produced in excess when formalin-containing meals are consumed repeatedly, leading to oxidative stress. Increased levels of malondialdehyde (MDA) and histopathology in renal tissue are indicators of oxidative stress [2]. Malondialdehyde is created when polyunsaturated fatty acids and free radicals react to cause lipid peroxidation in cell membranes (PUFA). A peroxide membrane is created by the chain-like process. The degradation of numerous cell-toxic aldehyde compounds, including one that results in the creation of MDA, can be triggered by hydrogen peroxide [4]. Red grape seed extract is a natural treatment option for elevated MDA levels and kidney damage that manifests histopathologically as parenchymal degenerative damage, hydropic degeneration, or necrosis (*Vitis venivera*). Among other fruits, grapes are one of the best suppliers of polyphenols. In grapes, the outermost epidermal cells (grape skin), which comprise for 60–70% of the total flavonoids, are where they are most prevalent. Anticancer properties of grapeseed oil have already been developed as dietary supplements [3]. Proanthocyanidin oligomers, a type of flavonoid found in grape seed extract and 50 times more plentiful than vitamins C and E, are used to lessen kidney damage [16]. The kidneys are an organ that remove harmful or dangerous compounds from the body and keep a balance of fluids and substances that are good for the body [7]. Both necrosis and fibrosis [1].

MATERIALS AND METHODS

A post-test only control group design characterizes this research's experimental laboratory study. Male rats of the same pure breed (*Rattus norvegicus*), 3 months old, weighing 150–200 grams, healthy, and free of anatomical anomalies made up the population. A complete of 30 male white rats, divided into 5 treatment groups (each group consisting of 5+1 spare rats), were needed for the study sample size to meet the inclusion and exclusion criteria. Simple random sampling was used to collect samples. They were sourced from the Animal Laboratory at the University of Muhammadiyah Semarang. Information on MDA scores and levels to ascertain whether variations in the concentration of grape seed extract had an impact on lowering MDA levels in rat kidney organs and improving the histopathological picture of rat kidney, histopathology was analyzed using the application program (SPSS) Statistical Product and Service Solution 26.0 for window. Samples with normal distribution were analyzed using one way ANOVA with computer programs.

Grape Seed Extract Making

Red grapes that have been thoroughly cleaned are split in half so that the seeds of the fruit are visible. The seeds are then collected—31.54 grams of them—into a single glass container and baked for two days at 60°C. Once the grape seeds have dried completely, they are smoothed down and sieved twice—once through a 60-mesh sieve to yield 7.3 grams and again through a 100-mesh sieve to yield 10.63 grams. Since being weighed, grape seed powder was macerated with 50mL of 96% ethanol for 24 hours over the course of three days. The filtrate was then evaporated to get rid of the ethanol after being collected for three days. The residual ethanol is then removed by placing the container into a water bath, causing the liquid to thicken. With three different concentrations of distilled water (0.035, 0.070, and 0.140g/BW rat/22 days), the extract was created.

MDA ANALYSIS

Kidney Organ Sample Preparation

Kidney organs were put into PBS solution 1x (1:10) to identify the levels of MDA and histopathological preparations in 10% (1:10) NBF (Neutral Buffered Formalin) until the organ samples were submerged in solution 11. The rat kidney organs that have been mashed are taken as much as 400 mg then added with 2 ml of physiological NaCl then centrifuged at 3000 rpm for 10 minutes, the supernatant is taken to measure MDA levels while the rest of the kidney organs are used for histopathological preparations.

Measurement of MDA Levels with TBARS Test

The kidney organ supernatant was pipetted as much as 400 l and added 1 ml of distilled water, 200 l of 10% TCA, 200 l of 1% TBA and 200 l of 1N HCl and homogenized using a centrifuge at 3000 rpm for 10 minutes. Heated using a water bath with a temperature of 95°C for 10 minutes. Cooled at room temperature and transferred to a cuvette and then read the absorbance of the sample using a UV-Visible spectrophotometer.

Preparation of Kidney Histopathology Preparations and HE Coloring Stages

The first stage of fixation of all kidney organs is fixed with 10% NBF for at least 24 hours then dehydrated. The second stage of dehydration is then processed: Next, the dehydration process is carried out by inserting the sample into graded alcohol, with a concentration of 70%; 80%; 96%; 100% for 12 to 24 hours in a tissue processor. The third stage is embedding. The tissue was put into liquid paraffin I for 2 hours and liquid paraffin II for 4 hours, then placed in the base mold. The process of sectioning or cutting. In the pre-hardened paraffin mold, the mold is opened. The paraffin block is placed on a microtome holder with a thickness of 3-5 microns. First stage of deparaffinization, Second stage Rehydration and Dehydration Stage.

RESULTS AND DISCUSSIONS

Sample Overview

The object of this study used 30 white rats divided into 5 groups and the addition of reserves for each group was 1 rat. One group as negative group, 4 groups were exposed to formalin 25 mg/kg BW rats/day for 22 days, then 3 groups were treated with grape seed extract with a concentration of 0.035 successively; 0.070 and 0.140g/BW rat/day for 22 days. On the 30th day, surgery was performed, and the kidneys were taken for examination of MDA levels and histopathology. Grape seed ethanol extract contains flavonoids, alkaloids, phenolics, tannins and triterpenoids.

The optimization of the wavelength to determine the MDA level was carried out using a 2.5 ppm MDA solution; 5.0 ppm and 10.0 ppm then read the absorbance with a spectrophotometer at wavelengths 524, 526, 528, 530, 532, 534, 536nm.

TABLE 1. The absorbance of MDA from 524-532nm Wavelength (nm)	MDA Standard Concentration (ppm)		
	2,5	5,0	10,0
524	1,037	1,253	2,136
526	1,147	1,388	2,298
528	1,275	1,541	2,441
530	1,344	1,623	2,500
532	1,409	1,699	2,525
534	1,405	1,696	2,503
536	1,394	1,684	2,486

Table 1 shows that the absorbance of MDA from 524-532 nm has increased, while at 534-536 nm the absorbance has decreased, so the maximum wavelength is 532 nm.

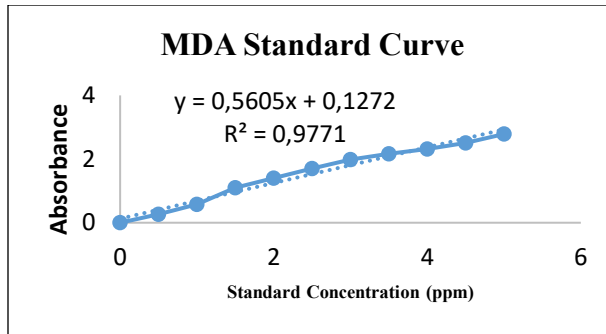


FIGURE 1. Standard Concentration MDA (ppm)

Based on the results in Fig. 1, it shows the equation of a straight-line curve on the standard MDA series, namely $y = 0.5605x + 0.1272$ while the value of $R^2 = 0.9771$. This line equation is then used to calculate the MDA content in the sample.

TABLE 2. MDA levels in rat kidney organs after treatment with grape seed extract concentration (mg/kg)

No.	Negative control	Positive control	Treatment 1	Treatments 2	Treatments 3
1.	4,7516	12,0509	7,6136	3,8405	0,9459
2.	7,3405	10,2239	6,8169	6,3702	6,5229
3.	7,8050	12,3359	9,7930	6,6296	4,9123
4.	7,3756	7,5379	5,8172	3,5390	5,8366
5.	7,7650	10,7222	6,8253	3,9529	4,5850
Average	7,0075±2,208	10,5742±0,0002	7,3732±0	4,8664±0,0002	4,5605±3,5247

Based on the results in Table 2 the rats in the negative control had MDA levels of 7.0075 mg/kg while in the positive control there was an increase in MDA levels to 10.5742 mg/kg but there was 1 sample that was low. in treatments 1, 2, and 3, the concentration of red grape seed extract was 0.035, respectively; 0.070 and 0.140 g/kg bw rats/day decreased MDA levels, giving grape seed extract with a high concentration can reduce MDA levels in the kidneys.

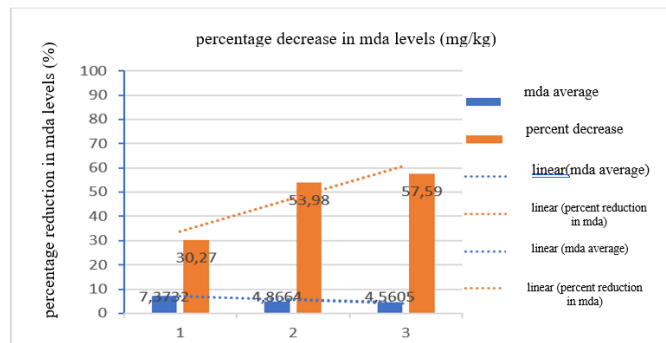


FIGURE 2. Percentage of reduction in MDA levels

Shows the results for the average yield of MDA levels that linearity decreases, while the percentage results of the decrease in MDA levels increase linearly with the addition of grape seed extract concentration. the percentage increase in MDA yields showed that the concentration of grape seed extract was 0.035, 0.070, and 0.140g/bb/day. the higher the concentration of red grape seed extract, the better for the kidneys.

Histopathology of the Kidney

Kidney organs of rats from all treatment groups were made histopathological preparations with Hematoxylin-Eosin (HE) staining technique, then histopathological observations of kidney tissue were carried out by observing changes in the kidney organs of the rats by scoring including damage to tubular lumen widening, tubular lumen vacuolization, Bowman's space widening and necrosis.

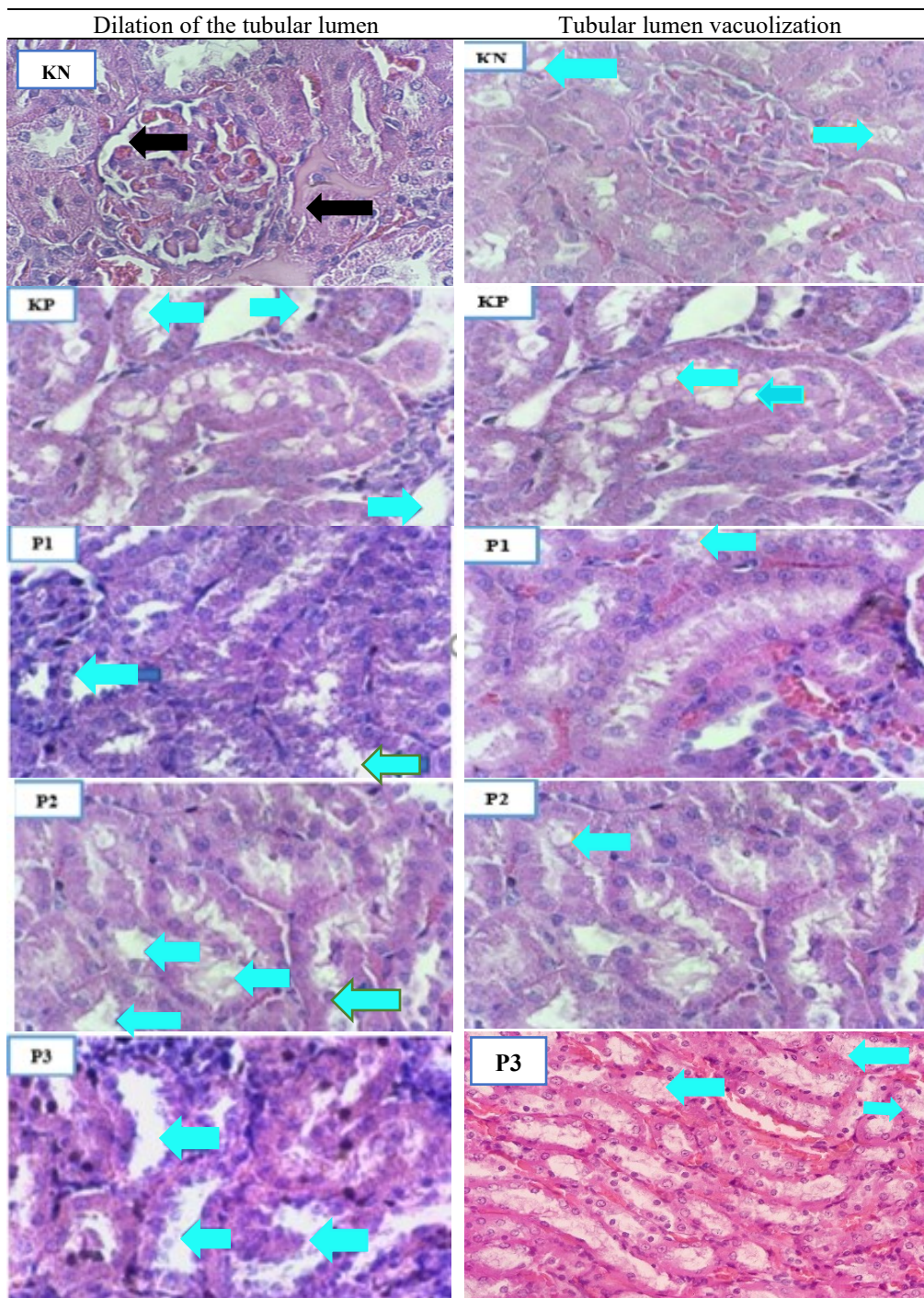


FIGURE 3. Tubular lumen dilation and tubular lumen vacuolization

Description: Negative control (KN), positive control (KP), Treatment 1 (P1), Treatment 2 (P2), Treatment 3 (P3), widening of the tubular lumen, vacuolization (←) and normal cells (←). 400x. microscopic magnification.

Observations in Fig. 3 show that the results of damage to the kidneys of rats found widening of the tubular lumen in the treatment (blue arrows), while in KN showed normal cells of the glomeruli and tubules (black arrows). The tubules are part of the kidney that is susceptible to damage due to reabsorption in the tubules. Observations in Fig. 3 show that the results of kidney damage in rats found vacuolization of the tubular lumen in the treatment of negative

control, positive control, treatment 1, treatment 2, and treatment 3. Damage to vacuolization was indicated by the presence of vacuoles in the tubular lumen.

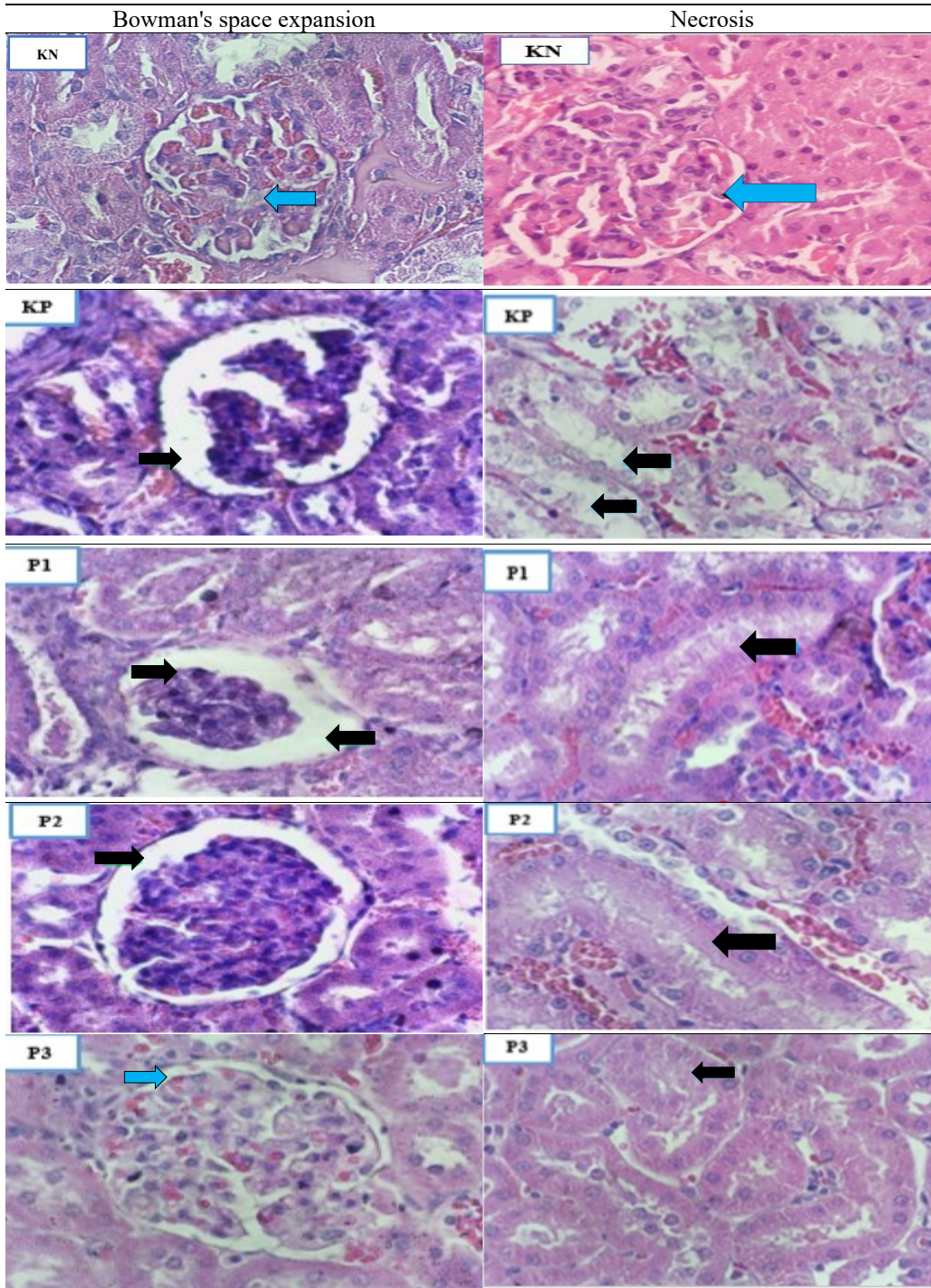


FIGURE 4. Bowman's space dilation and necrosis

Description: Negative control (KN), positive control (KP), Treatment 1 (P1), Treatment 2 (P2), Treatment 3 (P3), and Bowman's space widening and necrosis (◄) and normal cells (◄). 400x. microscopic magnification.

Observations in Fig. 4 show that the results of damage to the rat kidney found widening of the Bowman's space in the glomerulus in the treatment. Negative control, positive control, treatment 1, treatment 2, and treatment 3. Improvements in treatment group 3 showed that the Bowman's space was smaller as in the negative control treatment group. Observations in Fig. 4 show that the results of damage to the kidneys of rats were found to be necrosis (black) in the treatment group, both the positive control and 1, 2, and 3 treatments, while the negative control (blue arrow) had no necrosis.

TABLE 2. MDA normality test and histopathology of rat kidney

Normality	Sig	P-value
MDA level results	0,578	>0.05
Histopathological scoring of rat kidney		
Negative control	0,372	>0.05
positive control	0,170	>0.05
1 treatment	0,170	>0.05
2 treatment	0,310	>0.05
3 treatment	0,170	>0.05

Based on the normality test in Table 2, the use of the Shapiro-Wilk test showed that the results of the MDA data and the kidney histopathology of rats were normally distributed because the sig value was > 0.05.

TABLE 3. MDA homogeneity test and rat kidney histopathology

Homogeneity	Sig	P-value
MDA level results	0,904	>0.05
Histopathological scoring of rat kidney	1,000	>0.05

Table 3 homogeneity test of level MDA and histopathology of rat kidney showed that the sig value of 0.904 levels of MDA and 1000 histopathology of rat kidney was greater than the p value of 0.05, so it can be said that the research data were homogeneous.

TABLE 4. One way ANOVA levels of MDA and rat kidney histopathology

one way ANOVA	Sig	P-value
MDA level results	0,000	<0.05
Histopathological scoring of rat kidney	0,000	<0.05

Based on the results of the one-way ANOVA test in Table 4, MDA levels and rat kidney histopathology, sig value of 0.000, which is less than 0.05, can be concluded that the data is normally distributed and then further tests can be carried out using the post hoc test.

DISCUSSION

Based on the results of the one-way ANOVA test in Table 3, MDA levels and rat kidney histopathology, sig value of 0.000, which is less than 0.05, can be concluded that the data is normally distributed and then further tests can be carried out using the post hoc test. Previous research on phytochemical testing showed that there were differences in the results of compounds obtained negative results on alkaloids, while in this study negative results were carried out on saponin compounds, this was due to saponin compounds with low levels of polarity, saponins belonging to nonpolar to semipolar compounds depending on functional groups in the main framework. The results of this phytochemical test are also different. The differences in characteristics, temperature, and pH will cause the metabolic processes of the plant to be disturbed.

Flavonoids reduce free radicals directly. Flavonoids are oxidized by radicals, producing more stable and less reactive radicals, reducing complement activation, thereby reducing inflammatory cell adhesion, causing reduced inflammatory responses and suppressing enzymes functioning in the formation of free radical compounds. MDA is a radical product resulting from lipid peroxidation which is toxic to living cells. In addition, MDA is a measure of free

radicals contained in the body and is considered a biomarker that is often used to determine the level of oxidative stress.

The graph of the average and percentage decrease in MDA levels above shows that in treatment 1 there was a decrease in MDA levels, namely 30.27%, treatment 2 with a decrease of 53.98% and treatment 3 with a decrease of 57.59%. These results are in line with research. The combination of phycocyanin *S. platensis* and mangosteen rind extract (*Garcinia mangostana* L.) antioxidant activity in vitro as indicated by the percent inhibition value, obtained the percent inhibition values, respectively, namely 72.028%, 68.695% and 56.667 %. The greater the concentration of the combination of extracts, the greater the antioxidant activity.

The kidney is an organ that functions to maintain stability in the body such as the balance of body fluids, electrolytes and acid bases. plays an important role in maintaining the balance of body fluids, the kidneys play a role in the absorption of toxic substances from blood circulation into the kidneys by 25-30% which will later be cleaned by the kidneys. Administration of chemicals contained in free radicals will show damage to the histopathological picture of the kidneys in the form of vacuolization, widening of the tubular lumen due to a reduction in the number of cells.

The results of histopathological scoring of the kidneys in negative controls showed the average score was 2. These results found some damage such as widening of the tubular lumen and vacuolization of the tubular lumen. The average positive control score was 3 where the results found some kidney damage such as tubular lumen widening, tubular lumen vacuolization, Bowman's space widening and necrosis. Treatment 1 averaged a score of 2.4 where the results found some kidney damage such as widening of the tubular lumen, tubular lumen vacuolization and necrosis. Treatment 2 averaged histopathological scoring of rat kidney 2 where the results found some damage such as widening of the tubular lumen, tubular lumen vacuolization, tubular lumen widening. Treatment 3 averaged rat kidney histopathological scoring 2.2 where the results found some damage such as widening of the tubular lumen, tubular lumen vacuolization, widening of Bowman's space and necrosis.

Based on the readings in the negative control group, it was found that the histopathological abnormalities of the rat kidney were vacuolization of the tubular lumen, a factor that might influence the white rats. Internal factors such as the immune system, tubular lumen vacuolization in the negative control group were caused because the rat's kidneys had previously been damaged, in this study due to damage to tubular lumen vacuolization in the control group this was biased. In addition, screening was not carried out in the control group so that it could look healthy, it turned out that kidney damage had occurred so that microscopic observations showed histopathological damage to the kidneys of rats.

This study is in line with previous studies by, giving a graded dose of formalin, the histopathological results of rat kidney were damage to the proximal tubule with the findings of loss of brush border, found casts in the lumen of the proximal tubule, vascular or hydropic degeneration and necrosis. The part of the proximal tubule that causes the most damage to the proximal tubule is necrosis.

In this study, administration of one dose of formalin caused necrosis. In line with research conducted by kidney histopathology of white rats (*Rattus norvegicus*) who were injected with multi-dose of formalin intraperitoneally, the results showed changes in parenchymal degeneration, hydropic degeneration, and necrosis.

Toxic responses that enter the body along with the higher concentration of a compound that enters the body. Chemicals are accumulated in the kidneys in the tubules, chemicals are reabsorbed from the urine and then through the tubular epithelial cells. As a result of the process, toxic substances will accumulate in the kidneys and will cause damage to the kidneys, especially in the tubules, this is because the tubules are the site of reabsorption and excretion of toxic substances. As a result of too many chemicals in the kidneys will cause cell damage such as for example. tubular vacuolization.

Damage to the widening of the bowman's space in the glomerulus and at the same time improvement in the gradual therapy of grape seed extract, metabolic waste substances in the kidneys are dangerous, glomerular changes are characterized by changes in the shape of the glomerulus that are smaller than normal and there is an expansion in the bowman's part. Antioxidants repair glomerular damage due to alcohol giving free radicals to break the chain of the lipid peroxidation process and attach the hydrogen atom group on the OH group to the free radical ring so as to make it stable and not damage the glomerulus so that it can repair or even restore normal. changes in the tubules and vice versa, is tissue cell death caused by injury. Microscopic signs are changes in the nucleus where chromatin is lost, torn or cariorexic, the nucleus does not have a lot of color because it looks pale, not real or karyolysis. In damage to the dilatation or widening of the lumen, the process of loss of brushborder and protein collections that make up the cast results in obstructed tubular distribution, stimulating tubular dilation or dilation.

CONCLUSION

The outcomes demonstrated that red grape seed extract, at a dose of 0.140 mg/mL per rat body weight/day, reduced oxidative stress and enhanced the percentage of kidney organ histopathological repair. The histological results of rat kidney demonstrated glomerular improvement at the highest concentration of red grape seed ethanol extract therapy. The average result of MDA levels reduced and increased in the percentage of grape seed extract treatment.

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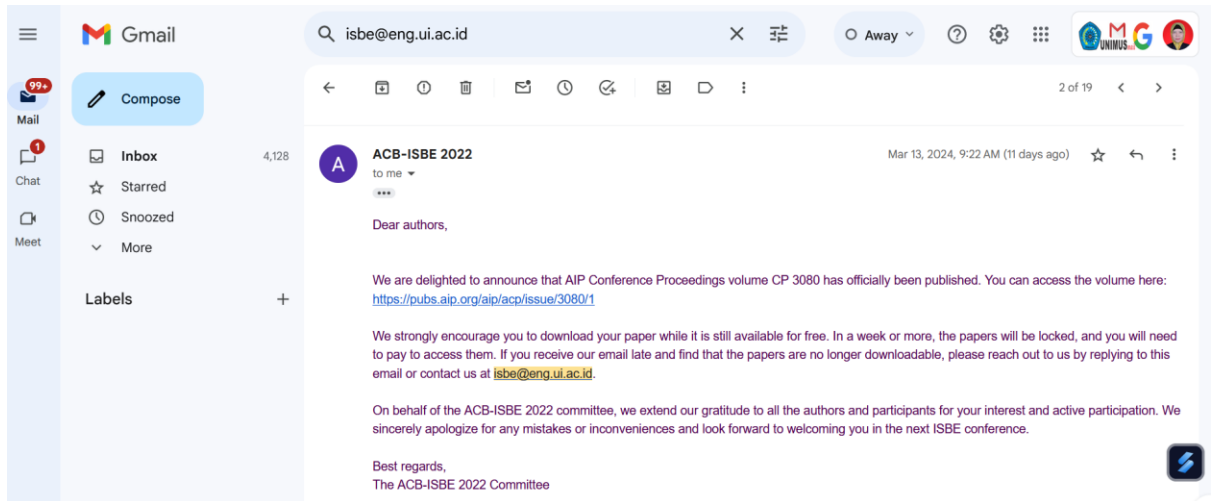
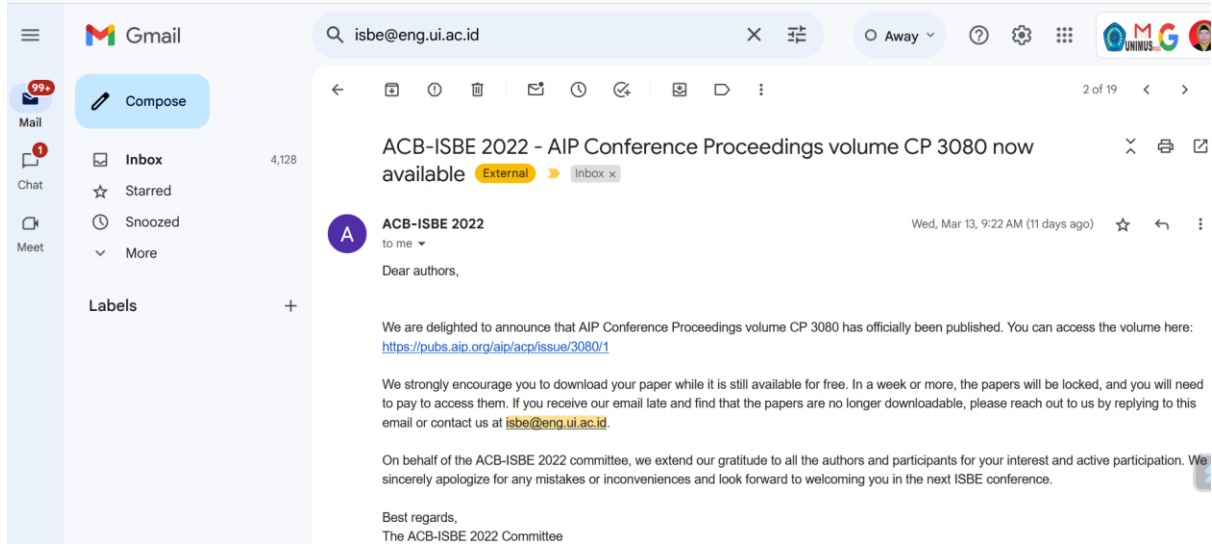
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BUKTI KORESPONDENSI

(Judul Artikel: The effectiveness of red grape seed extract on kidney organ of white rats exposed to formaldehyde)



Gmail interface showing an email from ACB-ISBE 2022. The email content includes:

Dear authors,

We are delighted to announce that AIP Conference Proceedings volume CP 3080 has officially been published. You can access the volume here: <https://pubs.aip.org/aip/acp/issue/3080/1>

We strongly encourage you to download your paper while it is still available for free. In a week or more, the papers will be locked, and you will need to pay to access them. If you receive our email late and find that the papers are no longer downloadable, please reach out to us by replying to this email or contact us at isbe@eng.ui.ac.id.

On behalf of the ACB-ISBE 2022 committee, we extend our gratitude to all the authors and participants for your interest and active participation. We sincerely apologize for any mistakes or inconveniences and look forward to welcoming you in the next ISBE conference.

Best regards,
The ACB-ISBE 2022 Committee

Gmail interface showing an email from ACB-ISBE 2022 with the subject "ACB-ISBE 2022 - payment for AIP proceeding publication submission #304". The email content includes:

Dear Author(s) of ACB-ISBE 2022,

We greatly appreciate your patience. We have received an important update from AIP Conference Proceedings regarding the payment for the publication of the proceeding in AIP Conference Proceedings.

As we stated on the website and the email before, the publication fee will be charged to the author. Please find attached the invoice for the payment. We kindly request that the payment be completed within a maximum of a week, by November 7, 2023.

Proof of payment can be sent to isbe@eng.ui.ac.id with the subject "ACB-ISBE 2022 - proof of payment paper no. (your paper number/submission number on EasyChair)" i.e. ACB-ISBE 2022 - proof of payment paper no. 304.

About the release of the proceedings, we are still waiting for the information from AIP.

Thank you for your prompt attention to this matter.

Best regards,

Gmail interface showing an email from Ana Hidayati with the subject "I have already paid." The email includes an attachment titled "One attachment - Scanned by Gmail" which is a scanned receipt for Rp 2.000.000 from Universitas Indonesia.

I have already paid.

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Bank Transaksi
Rp 2.000.000

Detail: Purnama Nur Anjani
No: Universitas Indonesia

No : 096/INV/ACB-ISBE2022/RCBE/X/2023
Re : Invoice for publication in AIP Conference Proceedings

October 27th, 2023

INVOICE

To	Ana Hidayati Mukaromah, Sri Suhartati, Mudyawati Kamaruddin, Yulita Maulani, Arifiani Agustin Amalia
EasyChair no.	304
Paper title	The Effectiveness of Red Grape Seed Extract on Kidney Organ of White Rats Exposed to Formaldehyde
AIP paper name	018_MUKAROMAH_ACBISBE2022

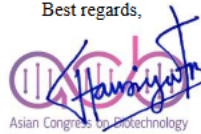
Order Information

No	Item Description	Qty	Price	Total
1	Publication fees Paper #18 of ACB-ISBE 2022 in AIP Conference Proceedings (Covers the review process, line editing, layout, and DOI Deposit)	1 paper	IDR 2.000.000	IDR 2.000.000
			TOTAL (IDR)	IDR 2.000.000

Payment method (bank transfer):

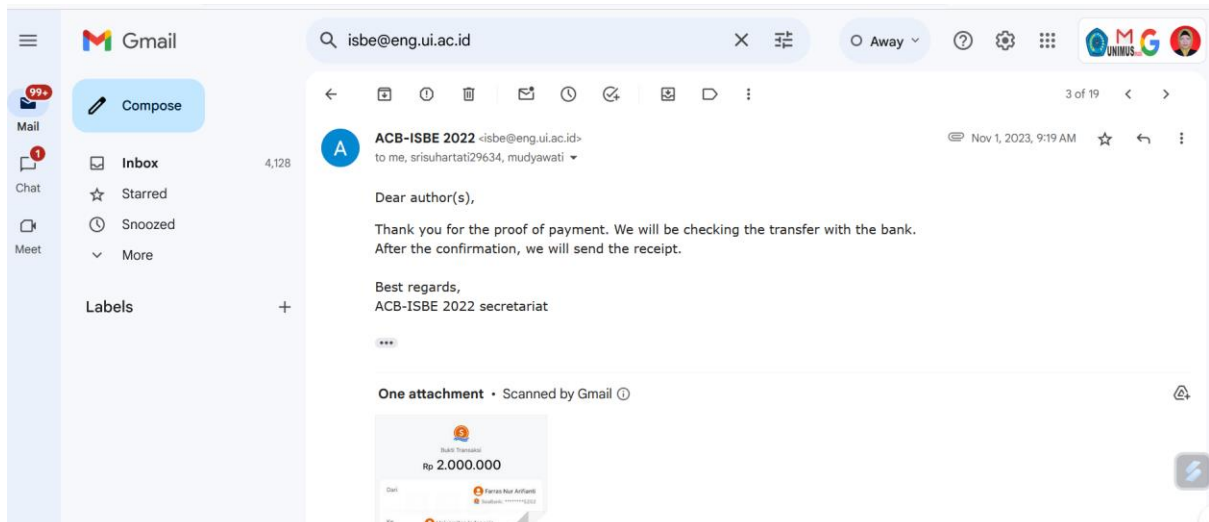
Bank name : BNI
Branch : BNI Kantor Cabang UI Depok
Account Number : 1273000411
Account Name : UI – FT NON BP or UNIVERSITAS INDONESIA BHPP

Best regards,



Asian Congress on Biotechnology

Siti Fauziyah Rahman ST., M.Eng., Ph.D
Editor in Chief ACB-ISBE 2022



The screenshot shows a Gmail interface with the following details:

- Sender:** ACB-ISBE 2022 <isbe@eng.ui.ac.id>
- Recipient:** me, srisuhartati29634, mudyawati
- Date:** Nov 1, 2023, 9:19 AM
- Body:**

Dear author(s),

Thank you for the proof of payment. We will be checking the transfer with the bank. After the confirmation, we will send the receipt.

Best regards,
ACB-ISBE 2022 secretariat

- Attachment:** One attachment • Scanned by Gmail
 - Bank Transfer Receipt:** Rp 2.000.000, dated Nov 1, 2023, from Universitas Indonesia.


Gmail interface showing an email from Ana Hidayati to ACB-ISBE. The email content includes:

3 of 19

Ana Hidayati <ana_hidayati@unimus.ac.id>
to ACB-ISBE, srisuhartati29634, mudyawati

I have already paid.

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Gmail interface showing a follow-up email from Ana Hidayati to ACB-ISBE. The email content includes:

3 of 19

Ana Hidayati <ana_hidayati@unimus.ac.id>
to ACB-ISBE

Nov 20, 2023, 2:55 PM

If the receipts for 304 and 305 are changed to the name Ana Hidayati Mukaromah, is that possible?

Thank you

On Sun, Nov 19, 2023 at 4:53 PM ACB-ISBE 2022 <isbe@eng.ui.ac.id> wrote:

Dear author(s),

Thank you for your patience. We have verified your payment for the publication fee in AIP Conference Proceedings. The receipt of your payment is attached to this email. We will now proceed with the payment to AIP Conference Proceedings.

Due to some changes in the number of papers submitted to AIP, we anticipate a slight delay in the production of the ACB-ISBE 2022 proceedings.

We appreciate your understanding in this matter. If you have any further questions or concerns, please do not hesitate to reach out.

Best regards,

Gmail interface showing an email from ACB-ISBE 2022. The email content includes:

3 of 19

On 2023-10-30 12:50, ACB-ISBE 2022 wrote:

Dear Author(s) of ACB-ISBE 2022,

We greatly appreciate your patience. We have received an important update from AIP Conference Proceedings regarding the payment for the publication of the proceeding in AIP Conference Proceedings.

As we stated on the website and the email before, the publication fee will be charged to the author. Please find attached the invoice for the payment. We kindly request that the payment be completed within a maximum of a week, by November 7, 2023.

Proof of payment can be sent to isbe@eng.ui.ac.id with the subject "ACB-ISBE 2022 - proof of payment paper no. (your paper number/submission number on EasyChair)" i.e. ACB-ISBE 2022 - proof of payment paper no. 304.

About the release of the proceedings, we are still waiting for the information from AIP.

Thank you for your prompt attention to this matter.

Best regards,
ACB-ISBE 2022 Secretariat

Browser tabs: (3) WhatsApp, ACB-ISBE 2022 - pa..., 305-3.pdf, 304-4.pdf, 304-3.pdf, Invoice AIP ISBE 2022-3

URL: https://mail.google.com/mail/u/0/#search/isbe%40eng.ui.ac.id/FMfcgzGwHVjhZHzPZrSwlbjnrSgrhmXw

Gmail interface showing search for **isbe@eng.ui.ac.id**. The email is from **ACB-ISBE 2022** to me, dated Nov 20, 2023, 3:20 PM.


Dear Ana,

Here we sent the revised receipt as requested. Please kindly check if it's already correct.

If you have any further questions or concerns, please do not hesitate to reach out.

Best regards,
ACB-ISBE 2023 secretariat

2 Attachments • Scanned by Gmail



Gmail interface showing a reply to the previous email. The sender is **ACB-ISBE 2022** (isbe@eng.ui.ac.id) writing on Mon, Nov 20, 2023 at 3:20 PM.

Dear Ana,

Here we sent the revised receipt as requested. Please kindly check if it's already correct.

If you have any further questions or concerns, please do not hesitate to reach out.

Best regards,
ACB-ISBE 2023 secretariat

On 2023-11-20 14:55, Ana Hidayati wrote:

If the receipts for 304 and 305 are changed to the name Ana Hidayati Mukaromah, is that possible?

Thank you

Gmail interface showing an email from **ACB-ISBE 2022** (isbe@eng.ui.ac.id) dated Sun, Nov 19, 2023 at 4:53 PM.

Dear author(s),

Thank you for your patience. We have verified your payment for the publication fee in AIP Conference Proceedings. The receipt of your payment is attached to this email. We will now proceed with the payment to AIP Conference Proceedings.

Due to some changes in the number of papers submitted to AIP, we anticipate a slight delay in the production of the ACB-ISBE 2022 proceedings.

We appreciate your understanding in this matter. If you have any further questions or concerns, please do not hesitate to reach out.

Best regards,
ACB-ISBE 2022 Secretariat

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isbe@eng.ui.ac.id

3 of 19

On 2023-10-30 12:50, ACB-ISBE 2022 wrote:

Dear Author(s) of ACB-ISBE 2022,

We greatly appreciate your patience. We have received an important update from AIP Conference Proceedings regarding the payment for the publication of the proceeding in AIP Conference Proceedings.

As we stated on the website and the email before, the publication fee will be charged to the author. Please find attached the invoice for the payment. We kindly request that the payment be completed within a maximum of a week, by November 7, 2023.

Proof of payment can be sent to isbe@eng.ui.ac.id with the subject "ACB-ISBE 2022 - proof of payment paper no. (your paper number/submission number on EasyChair)" i.e. ACB-ISBE 2022 - proof of payment paper no. 304.

About the release of the proceedings, we are still waiting for the information from AIP.

Thank you for your prompt attention to this matter.

Best regards,
ACB-ISBE 2022 Secretariat

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isbe@eng.ui.ac.id

7 of 19

We would like to remind you about the payment of the publication fee following our previous email dated Monday, 30 October 2023, sent from isbe@eng.ui.ac.id, which detailed the publication process in AIP Conference Proceedings.

The invoice specifying the publication fee details was provided in the same email sent on Monday, 30 October 2023, from isbe@eng.ui.ac.id.

To ensure a smooth process, please ensure that the payment is made by Monday, 7 November 2023. Proof of payment can be sent to isbe@eng.ui.ac.id with the subject "ACB-ISBE 2022 - proof of payment paper no. (your paper number / submission number on EasyChair)," for example, ACB-ISBE 2022 - proof of payment paper no. 01.

We appreciate your prompt attention to this matter.

Best regards,
ACB-ISBE 2022 Secretariat

Reply Forward

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8 of 19

ACB-ISBE 2022 - notice for submission 305 External

ACB-ISBE 2022 <isbe@eng.ui.ac.id>
to me, yulitamaulani98, mudyawati

Wed, Jun 21, 2023, 11:45 AM

Dear author(s),

Thank you for your patience. We apologize for the delay in the proceeding publication process.

Please find attached the latest version of your fullpaper, which has undergone layout editing. We have also included the Copyright Agreement Form for your review and signature. If you are satisfied with the latest version of your fullpaper, please have one of the authors sign the Copyright Agreement Form in the designated "Author(s) Signature" section, put their name in the "Print Name" field, and provide the date in the "Date" field. You can refer to the attached TCA_example file for guidance.

We kindly request that you return the signed Copyright Agreement Form to us no later than Friday, 23rd June 2023.

Thank you for your understanding and cooperation.

Best regards,
ACB-ISBE 2022 Committee

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Best regards,
ACB-ISBE 2022 Committee

Notes # 1:
Please note that the Copyright Agreement Form can be printed and manually signed. The form is designed for Letter-sized paper. If you choose to print it, kindly scan the signed form and send it back to us in **PDF format**.

Notes # 2:
Please check the comments on the fullpaper file

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TCA_example.pdf
TCA_305.pdf 354 KB

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ACB-ISBE 2022 -isbe@eng.ui.ac.id>
to me, yulitamaulani98, mudyawati

Jun 25, 2023, 9:16 PM

Dear author(s),

We would like to bring to your attention that we have not yet received your signed Copyright Agreement Form, which was due on Friday, 23rd June 2023.

We kindly request that you submit the signed form no later than Monday, 26th June 2023. If you need additional time to sign or review your paper, or if you wish to withdraw your paper from the proceedings, please inform us as soon as possible. It is important to note that we have a deadline to submit the entire proceedings to AIP by the end of this month.

Thank you for your understanding and prompt attention to this matter.

Best regards,
ACB-ISBE 2022 Committee

----- Original Message -----

Subject:ACB-ISBE 2022 - notice for submission 305
Date:2023-06-21 11:45
From:ACB-ISBE 2022 <isbe@eng.ui.ac.id>

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Ana Hidayati <ana_hidayati@unimus.ac.id>
to ACB-ISBE

Jun 27, 2023, 1:15 AM

On Sun, Jun 25, 2023 at 9:16 PM ACB-ISBE 2022 <isbe@eng.ui.ac.id> wrote:

Dear author(s),

We would like to bring to your attention that we have not yet received your signed Copyright Agreement Form, which was due on Friday, 23rd June 2023.

We kindly request that you submit the signed form no later than Monday, 26th June 2023. If you need additional time to sign or review your paper, or if you wish to withdraw your paper from the proceedings, please inform us as soon as possible. It is important to note that we have a deadline to submit the entire proceedings to AIP by the end of this month.

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Best regards,
ACB-ISBE 2022 Committee

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Ana Hidayati <ana_hidayati@unimus.ac.id>
to ACB-ISBE

Jun 27, 2023, 1:15 AM ☆ ↶ ⋮

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Subject:ACB-ISBE 2022 - notice for submission 305
Date:2023-06-21 11:45
From:ACB-ISBE 2022 <isbe@eng.ui.ac.id>
To:ana_hidayati@unimus.ac.id, yulitamaulani98@gmail.com, mudyawati@unimus.ac.id

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ACB-ISBE 2022 Committee

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Jun 27, 2023, 1:18 AM

Ana Hidayati <ana_hidayati@unimus.ac.id>
to ACB-ISBE

On Tue, Jun 27, 2023 at 1:15 AM Ana Hidayati <ana_hidayati@unimus.ac.id> wrote:

On Sun, Jun 25, 2023 at 9:16 PM ACB-ISBE 2022 <isbe@eng.ui.ac.id> wrote:

Dear author(s),

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----- Original Message -----

Subject:ACB-ISBE 2022 - notice for submission 305
Date:2023-06-21 11:45
From:ACB-ISBE 2022 <isbe@eng.ui.ac.id>
To:ana_hidayati@unimus.ac.id, yulitamaulani98@gmail.com, mudyawati@unimus.ac.id

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isbe@eng.ui.ac.id

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Notes #2:
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Browser address bar: <https://mail.google.com/mail/u/0/#search/isbe%40eng.ui.ac.id/KtbxLzFrMrSrXBtlvFqDjKRzvcwCRMcbV>

Gmail interface showing search results for **isbe@eng.ui.ac.id**. The search bar contains **isbe@eng.ui.ac.id**. The left sidebar shows navigation options: Mail (99+), Compose, Chat (1), Meet, and Labels (+).

The main content area displays an email from **Ana Hidayati** <ana_hidayati@unimus.ac.id> to **isbe**, dated **Fri, May 26, 2023, 10:54 AM**. The email contains **One attachment** titled **Scanned by Gmail**, which is a PDF document with the subject **The Effectiveness of Business Social Network on Another Origin of Value Based Approach to Entrepreneurship**. The attachment is labeled **3 ACB-ISBE2022_...**. Below the attachment are **Reply** and **Forward** buttons.

Browser address bar: <https://mail.google.com/mail/u/0/#search/isbe%40eng.ui.ac.id/FMfcgzGsnLFGwfvdTnkjcmZKgJRpj>

Gmail interface showing search results for **isbe@eng.ui.ac.id**. The search bar contains **isbe@eng.ui.ac.id**. The left sidebar shows navigation options: Mail (99+), Compose, Chat (1), Meet, and Labels (+).

The main content area displays an email thread. The top email is from **Ana Hidayati** <ana_hidayati@unimus.ac.id> to **isbe**, dated **Tue, Jun 27, 2023, 1:22 AM**. The email contains **One attachment** titled **Scanned by Gmail**, which is a PDF document with the subject **The Effectiveness of Group Social Network on The Effect and Social Origin of Value Based Approach to Entrepreneurship as "Manufacturing and Biotechnology"**. The attachment is labeled **3 ACB-ISBE2022_...**. Below the attachment are **Reply** and **Forward** buttons.

Browser address bar: <https://mail.google.com/mail/u/0/#search/isbe%40eng.ui.ac.id/KtbxLvHDhdKcSVLmLwwWJDTBnSIBZjwNXq>

Gmail interface showing search results for **isbe@eng.ui.ac.id**. The search bar contains **Search in mail**. The left sidebar shows navigation options: Mail (99+), Compose, Chat (1), Meet, and Labels (+).

The main content area displays an email thread. The top email is from **ACB-ISBE 2022** to **Ana Hidayati** <ana_hidayati@unimus.ac.id> on **Wed, May 24, 2023, 2:03 PM**. The email text reads: **Dear Ana, Terima kasih dan mohon maaf atas keterlambatan email kami. Kami telah mengecek file revisi yang Anda kirim, dan masih ada yang h...**. Below this is a reply from **Ana Hidayati** <ana_hidayati@unimus.ac.id> to **Sri**, dated **Wed, May 24, 2023, 6:16 PM**. The email contains **One attachment** titled **Scanned by Gmail**, which is a PDF document with the subject **The Effectiveness of Business Social Network on Another Origin of Value Based Approach to Entrepreneurship**. The attachment is labeled **3 ACB-ISBE2022_...**. Below the attachment are **Reply** and **Forward** buttons.

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isbe@eng.ui.ac.id

ACB-ISBE 2022 - notification for submission 304 External

ISBE 2023 <isbe@eng.ui.ac.id>
to me, srisuhartati29634

Fri, May 5, 2023, 3:41 PM

Yth authors submission 304 ACB-ISBE 2022

Perkenalkan saya Intan, dari sekretariat konferensi ACB-ISBE 2022. Saat ini kami sedang melakukan pengecekan revised fullpaper yang telah dikirimkan para author.

Terkait paper anda, mohon bisa membetulkan format References sehingga mengikuti template paper kami, dan merevisi seperti yang diminta oleh Reviewer kami. Hasil review dapat dicek di submission anda di EasyChair.

Terlampir revised fullpaper yang telah anda submit.

Revised fullpaper yang telah dirapikan dapat dikirim ke email ini serta diupload ulang ke submission anda di EasyChair sebelum Jumat 12 Mei 2023.

Atas perhatian dan kerjasamanya, kami ucapkan terima kasih.

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isbe@eng.ui.ac.id

Pada tanggal Jum, 12 Mei 2023 pukul 05.28 Ana Hidayati <ana_hidayati@unimus.ac.id> menulis:

----- Forwarded message -----
From: Ana Hidayati <ana_hidayati@unimus.ac.id>
Date: Fri, May 12, 2023 at 4:27 AM
Subject: Fwd: ACB-ISBE 2022 - notification for submission 304
To: Sri Suhartati <srisuhartati29634@gmail.com>

----- Forwarded message -----
From: ISBE 2023 <isbe@eng.ui.ac.id>
Date: Fri, May 5, 2023 at 3:41 PM
Subject: ACB-ISBE 2022 - notification for submission 304
To: <ana_hidayati@unimus.ac.id>, <srisuhartati29634@gmail.com>

Yth authors submission 304 ACB-ISBE 2022

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To: <ana_hidayati@unimus.ac.id>, <srisuhartati29634@gmail.com>

Yth authors submission 304 ACB-ISBE 2022

Perkenalkan saya Intan, dari sekretariat konferensi ACB-ISBE 2022. Saat ini kami sedang melakukan pengecekan revised fullpaper yang telah dikirimkan para author.

Terkait paper anda, mohon bisa membetulkan format References sehingga mengikuti template paper kami, dan merevisi seperti yang diminta oleh Reviewer kami. Hasil review dapat dicek di submission anda di EasyChair.

Terlampir revised fullpaper yang telah anda submit.

Revised fullpaper yang telah dirapikan dapat dikirim ke email ini serta diupload ulang ke submission anda di EasyChair sebelum Jumat 12 Mei 2023.

Atas perhatian dan kerjasamanya, kami ucapkan terima kasih.

Sekretariat ACB-ISBE 2022
Intan

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Sekretariat ACB-ISBE 2022
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Received, thank you. Well received with thanks. Thanks a lot.

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CFP - ISBE 2023

ISBE 2023 <isbe@eng.ui.ac.id> to isbe Thu, May 4, 2023, 1:04 PM

Dear former participants of ISBE,

We would like to thank you all for your previous contribution to the past editions of ISBE.

It is our great pleasure to invite you to the 8th International Symposium on Biomedical Engineering (ISBE 2023) in conjunction with QIR 2023, which will be held on October 23 – 25, 2023, in Bali, Indonesia.

Important Dates
 Deadline for Full Paper Submission: June 20, 2023
 Notification of Acceptance: August 1, 2023
 Deadline for Early Bird Registration: August 15, 2023
 Conference Date: October 23-25, 2023

Paper submission
 Download the manuscript template from the conference website: <https://isbe.eng.ui.ac.id/authors-information/full-paper-submission/>
 The online submission system is open at submit-manuscript <https://submit-manuscript.org/conference/isbe-2023>

Attached: CFP of ISBE 2023

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 The online submission system is open at submit-manuscript <https://submit-manuscript.org/conference/isbe-2023>

Attached: CFP of ISBE 2023

We are looking forward to seeing you at ISBE 2023.

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ACB-ISBE 2022 notification for paper 305 External → Inbox x

ACB-ISBE 2022 <acbisbe2022@easychair.org> to me Thu, Sep 8, 2022, 11:53 AM ☆ ↶ ⋮

Dear Ana Hidayati Mukaromah, Yulita Maulani, Mudyawati Kamaruddin
 Submission ID: 305

The committee of ACB-ISBE 2022 has accepted your abstract titled "THE EFFECTIVENESS OF GRAPE SEED EXTRACT ON THE LIVER AND HEART ORGANS OF WHITE RATS EXPOSED TO FORMALDEHYD ON MALONDIALDEHYD AND HISTOPATHOLOGY" to be presented at the event. Your paper will be scheduled to be presented between October 2nd – 6th, 2022.

To assist your presentation at the conference, please pay careful attention to the following:

1. Presenter can choose the type of presentation between oral presentations or poster presentations. You can submit your presentation file on your EasyChair in the Oral Presentation column or Poster Presentation column (choose only one type of presentation). Guidance for oral and poster presentations will be informed on the website later. Note: uploading your file is not mandatory.
2. The deadline for registration and payment is July 22nd, 2022, for early bird registration; normal registration starts from July 23rd – September 15th, 2022. More information can be found at <https://www.acb-afob2022.com/registration> or <https://isbe.eng.ui.ac.id/authors-information/registration/>. Please notice that unpaid submissions will be removed from the conference program.
3. If you want to publish your paper with us, the final full paper deadline is September 16th, 2022. The information and format of the full paper can be downloaded from <https://www.acb-afob2022.com/submission> or <https://isbe.eng.ui.ac.id/authors-information/full-paper-submission/>.

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SUBMISSION: 305
 TITLE: THE EFFECTIVENESS OF GRAPE SEED EXTRACT ON THE LIVER AND HEART ORGANS OF WHITE RATS EXPOSED TO FORMALDEHYD ON MALONDIALDEHYD AND HISTOPATHOLOGY

----- REVIEW 1 -----
 SUBMISSION: 305
 TITLE: THE EFFECTIVENESS OF GRAPE SEED EXTRACT ON THE LIVER AND HEART ORGANS OF WHITE RATS EXPOSED TO FORMALDEHYD ON MALONDIALDEHYD AND HISTOPATHOLOGY
 AUTHORS: Ana Hidayati Mukaromah, Yulita Maulani and Mudyawati Kamaruddin

----- Overall evaluation -----
 The study describes the effectiveness of grape seed extract on the liver and heart organs of white rats exposed to formaldehyde on malondialdehyde and histopathology.

The aim of the paper needs to be clearly stated. The Abstract provided describes the detailed urgency of the research as well as the reasonable target and expected results. Interesting work to share at the conference.

However, several incorrect or lack of articles (English grammar) need to be addressed to improve the quality of the abstract.

If you are intended to publish your paper in ACB-ISBE, please use the ACB-ISBE format paper (you can download it on the website, <https://www.acb-afob2022.com/submission>).

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ACB-ISBE 2022 notification for paper 304 External

ACB-ISBE 2022 <acbisbe2022@easychair.org>
 to me

Thu, Sep 8, 2022, 11:53 AM

Dear Ana Hidayati Mukaromah, Sri Suhartati, Mudyawati Kamaruddin
 Submission ID: 304

The committee of ACB-ISBE 2022 has accepted your abstract titled "The Effectiveness of Red Grape Seed Extract on Kydney Organ of White Rats Exposed to Formaldehyde" to be presented at the event. Your paper will be scheduled to be presented between October 2nd – 6th, 2022.

To assist your presentation at the conference, please pay careful attention to the following:

1. Presenter can choose the type of presentation between oral presentations or poster presentations. You can submit your presentation file on your EasyChair in the Oral Presentation column or Poster Presentation column (choose only one type of presentation). Guidance for oral and poster presentations will be informed on the website later. Note: uploading your file is not mandatory.
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3. If you want to publish your paper with us, the final full paper deadline is September 16th, 2022. The information and format of the full paper can be downloaded from <https://www.acb-afob2022.com/submission> or <https://isbe.eng.ui.ac.id/authors-information/full-paper-submission/>.

For any further assistance, feel free to contact us at isbe@eng.ui.ac.id.

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For any further assistance, feel free to contact us at isbe@eng.ui.ac.id.

Thank you very much for your kind attention. We are looking forward to your participation in ACB-ISBE 2022.

Best regards,

Dr.Eng Muhamad Sahlan, S.Si., M.Eng.
 General Chair of ACB-ISBE 2022

SUBMISSION: 304
 TITLE: The Effectiveness of Red Grape Seed Extract on Kydney Organ of White Rats Exposed to Formaldehyde

----- REVIEW 1 -----
 SUBMISSION: 304
 TITLE: The Effectiveness of Red Grape Seed Extract on Kydney Organ of White Rats Exposed to Formaldehyde
 AUTHORS: Ana Hidayati Mukaromah, Sri Suhartati and Mudyawati Kamaruddin

----- Overall evaluation -----
 The study describes the effectiveness of red grape seed extract on the kidney organs of white rats exposed to formaldehyde.

The aim of the paper needs to be clearly stated. The Abstract provided describes the detailed urgency of the research as well as the reasonable

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However, several incorrect or lack of articles (English grammar) need to be addressed to improve the quality of the abstract.

If you are intended to publish your paper in ACB-ISBE, please use the ACB-ISBE format paper (you can download it on the website, <https://www.acb-afob2022.com/submission>).

Looking forward to hearing your presentation at ACB-ISBE 2022 in Bali.

----- Reviewer's confidence -----
SCORE: 3 (Good)

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ACB-ISBE 2022 - schedule announcement External

ACB-ISBE 2022 -acb-isbe2022@easychair.org
to me

Wed, Sep 7, 2022, 6:17 PM

Dear presenters,

First, we would like to thank all participants for your interest in joining ACB-ISBE 2022.

We have uploaded the General Schedule and Parallel Session schedules on the website. Please kindly check them on <https://www.acb-afob2022.com/events>.

The guidelines for oral & poster presentations will be updated later.

Notes:
As previously mentioned in the Letter of Acceptance, the presenters could choose between oral and poster presentations. However, due to the limited time and session for oral presentation, some presenters will be allocated in the poster presentation section.

If you have a question, please contact us via email isbe@eng.ui.ac.id or via chat on ACB-ISBE website.

Thank you

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Thank you

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Thank you

Best regards,
ACB-ISBE 2022 committee

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ACB-ISBE 2022 <acbise2022@easychair.org> Wed, Sep 7, 2022, 6:17 PM ☆ ↶ ⋮
to me ▾

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Thank you

Best regards,
ACB-ISBE 2022 committee

