

Message

**From:** HEALY, CHARLES E [AG/1000] [/O=MONSANTO/OU=NA-1000-01/CN=RECIPIENTS/CN=297008]  
**Sent:** 8/19/2008 4:05:46 PM  
**To:** SALTMIRAS, DAVID A [AG/1000] [REDACTED] FARMER, DONNA R [AG/1000]  
[REDACTED]  
**Subject:** FW: Manuscript CBTO548 for review  
**Importance:** High

Donna and David,

As we discussed (David) or per my voice message (Donna), please see below on the article I have been asked to review. You two would be the reviewers in fact and I would then collate your comments and be the reviewer of record. Please let me know soon, Donna, if this works for you given the relatively short turnaround time (two weeks).

Thanks,

Chuck

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

**From:** [REDACTED]  
[mailto:[REDACTED]] On Behalf Of Cell Biology and Toxicology  
**Sent:** Tuesday, August 19, 2008 6:15 AM  
**To:** HEALY, CHARLES E [AG/1000]  
**Subject:** Manuscript CBTO548 for review

Dear Dr Charles Healy,

In view of your expertise I would be very grateful if you could review the following manuscript which has been submitted to Cell Biology and Toxicology.

Manuscript Number: CBTO548

Title: Cytotoxicity of herbicide Roundup and its active ingredient, glyphosate in rats

**Abstract:** Glyphosate is the active ingredient and polyoxyethyleneamine, the major component, is the surfactant present in the herbicide Roundup formulation. The objective of this study was to analyze potential cytotoxicity of the Roundup and its fundamental substance (glyphosate). Albino male rats were intraperitoneally treated with sub-lethal concentration of Roundup (269.9 mg/kg) or glyphosate (134.95 mg/kg) each 2 day, during 2 weeks. Hepatotoxicity was monitored by quantitative analysis of the serum alanine aminotransferase (ALT), aspartate aminotransferase (AST), alkaline phosphatase (ALP) activities, total protein, albumin, triglyceride and cholesterol. Creatinine and urea were used as the biochemical markers of kidney damages. The second aim of this study to investigate how glyphosate alone or included in Roundup affected hepatic glutathione (GSH) and lipid peroxidation (LPO) levels of animals as an index of antioxidant status and oxidative stress respectively, as well as the serum nitric oxide (NO) and alpha tumour necrosis factor (TNF- $\alpha$ ) were measured. Treatment of animals with Roundup induced the leakage of hepatic intracellular enzymes, ALT, AST and ALP suggesting irreversible damage in hepatocytes starting from the first week. It was found that the effects were different on the enzymes in Roundup and glyphosate-treated groups. Roundup induced significant changes in cellular antioxidant status as GSH depletion and increased LPO more than Glyphosate. Significant time-dependent depletion of GSH levels and induction of oxidative stress in liver by the elevated levels of LPO, further confirmed the potential of Roundup to induce oxidative stress in hepatic tissue. However, glyphosate caused significant increases in NO levels more than Roundup after two weeks of treatment. Both treatments increased the level of TNF- $\alpha$  by the same manner.

In case you are interested in reviewing this submission please click on this link:

<http://cbto.edmgr.com/l.asp?i=7663&l=X68Q2Z7N>

If you do not have time to do this, or do not feel qualified, please click on this link:

<http://cbto.edmgr.com/l.asp?i=7662&l=90W3TW6X>

We hope you are willing to review the manuscript. If so, would you be so kind as to return your review to us within 14 days of agreeing to review? Thank you.

You are requested to submit your review online by using the Editorial Manager system which can be found at:

<http://cbto.edmgr.com/>. Your username is: CHEaly-677 and your password is: healy6.

IN ORDER TO KEEP DELAYS TO A MINIMUM, PLEASE ACCEPT OR DECLINE THIS ASSIGNMENT ONLINE AS SOON AS POSSIBLE!

You are requested to review the manuscript on a scale of 1 to 100. Please note that 100 is the best score.

If you have any questions, please do not hesitate to contact us. We appreciate your assistance.

With kind regards,  
Editor in Chief  
Cell Biology and Toxicology