



# Expression of multidrug resistance 1 and multidrug resistance-related protein 1 in C57BL/6 mice treated with benzene

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Genet. Mol. Res. 12 (4): 5842-5850 (2013)

Received March 8, 2013

Accepted August 23, 2013

Published November 22, 2013

DOI <http://dx.doi.org/10.4238/2013.November.22.11>

**ABSTRACT.** ATP-binding cassette super family (ABC) proteins are considered key to oncology and pharmacology studies. We examined the effect of benzene on ABC pump protein levels in C57BL/6 mouse bone marrow mononuclear cells. After a 2-week gavage (200 mg/kg, 5 days per week), the number of peripheral leukocytes, lymphocytes and basophils dropped significantly; there was also a significant decrease in MDR1 and MRP1 gene expression. A significant reduction in expression of P-gp was found; however, there was no significant decrease in the expression of MRP1 and NF- $\kappa$ B p65. We conclude that regulation of membrane efflux transport protein could be a factor in benzene hematotoxicity.

**Key words:** Benzene; Bone marrow mononuclear cells; MDR1; P-glycoprotein