A Reliable Preclinical Model to Study the Impact of Cigarette Smoke in Development and Disease

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The World Health Organization has estimated that, worldwide, cigarette smoking has caused more than 100 million deaths in the last century, a number that is expected to increase in the future. Understanding cigarette smoke toxicity is key for research and development of proper public health policies. The current challenge is to establish a reliable preclinical model to evaluate the effects of cigarette smoke. In this work, we describe a simple method that allows for quantifying the toxic effects of cigarette smoke using zebrafish. Here, viability of larvae and adult fish, as well as the effects of cigarette smoke extracts on vascular development and tissue regeneration, can be easily assayed. © 2019 by John Wiley & Sons, Inc.