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Data Article

# Dataset of Trans-Resveratrol on diabetes-induced abnormal spermatogenesis, poly (ADP-ribose) polymerase-1 (PARP1) expression in intra-testicular blood vessels, and stage-dependent expression of PARP1 and Sirtuin 1 in the rat testis



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## ARTICLE INFO

### Article history:

Received 27 September 2016

Received in revised form

24 November 2016

Accepted 30 November 2016

Available online 6 December 2016

### Keywords:

Apoptosis

DNA damage repair

Hyperglycemia

Male germ cells

## ABSTRACT

This article contains data related to the article "Effects of Trans-Resveratrol on hyperglycemia-induced abnormal spermatogenesis, DNA damage and alterations in poly (ADP-ribose) polymerase signaling in rat testis" (A. Abdelali, M. Al-Bader, N. Kilarkaje, 2016) [1]. The data are related to Resveratrol on diabetes-induced changes in blood glucose levels, body weights of rats, sperm count and motility, expression of poly (ADP-ribose) polymerase-1 (PARP1) in Leydig cells and in intratesticular blood vessels, and stage-dependent expression of PARP1 and Sirtuin 1 (SirT1) in the rat testis. In this experiment, the data were obtained from control, Resveratrol-treated, diabetic and Resveratrol-treated diabetic rats on day 42 after the induction of diabetes. Resveratrol treatment for a group each of normal and diabetic rats started on day 22 and extended up to day 42. The sperm parameters were conducted in samples obtained from the epididymis. The expression of proteins was evaluated by immunohistochemistry by using specific primary

DOI of original article: <http://dx.doi.org/10.1016/j.taap.2016.09.023>

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<http://dx.doi.org/10.1016/j.dib.2016.11.095>

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antibodies. The data are presented in the form of figures and significance of them has been given in the research article [1].

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## Specifications Table

Subject area	<i>Biology</i>
More specific subject area	<i>Resveratrol effects on diabetes-induced changes in spermatogenesis and PARP signaling</i>
Type of data	<i>Figures</i>
How data was acquired	<ol style="list-style-type: none"> <li>1. <i>For the estimation of glucose level, the serum was used and the glucose content was measured by using a glucometer</i></li> <li>2. <i>For quantification of sperm motility and sperm count, the sperm from the tails of epididymides were collected and analyzed as described before [2].</i></li> <li>3. <i>For the analysis of protein expression, specific primary antibodies and appropriate secondary antibodies were used and immunohistochemical analysis was carried out. Expression of PARP1 was evaluated in Leydig cells and in intra-testicular blood vessels. Stage-dependent expression of PARP1 and SirT1 was also analyzed [2].</i></li> </ol>
Data format	<i>Analyzed</i>
Experimental factors	<i>Adult 13–15 week-old male Wistar rats were used. Diabetes was induced by Streptozotocin injection. The rats were diabetic for 42 days. Resveratrol (5 mg/kg/day) was given to diabetic rats starting from day 22 up to day 42, on which day they were killed for sample collection (testicular and epididymal).</i>
Experimental features	<i>Experimental animals were segregated into 1) control, 2) Resveratrol-treated (5 mg/kg; ip), 3) Streptozotocin (55 mg/kg; ip)-induced diabetic, and 4) diabetic + Resveratrol-treated groups.</i>
Data source location	<i>n/a</i>
Data accessibility	<i>The data are included with this article.</i>

## Value of the data

- These data may be useful to revisit the hitherto widely believed notion that Resveratrol inhibits hyperglycemia.
- The data about Resveratrol on diabetes-induced changes in sperm motility and sperm count are promising and may be useful for alleviating these abnormalities of diabetes in patients.
- Thus far, diabetes is known to cause adversities in the testis. This data set provides proof for the fact that PARP1 expression in intra-testicular blood vessels may have contributory roles for the onset of testicular damage.
- PARP1 expression in the testis is seminiferous epithelial stage-dependent. This will help researchers to find out which germ cell types are susceptible to changes in PARP1 expression because of hyperglycemia and Resveratrol.
- The data set provides evidence in favor of stage-independent expression of SirT1 in the testis. This data set may assist researchers to further understand which germ cell types are important in providing antioxidant synthesis or stimulation in the testis.

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