Author's response to reviews

Title: The Neck-Region Polymorphism of DC-SIGNR in Peri-Centenarian from Han Chinese Population

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Author's response to reviews: see over
Dear Editor,

Thank you very much for giving us the opportunity to revise our manuscript. We have addressed the referee’s comments point by point and have revised the manuscript accordingly. The changes to the text have been highlighted in red color.

Here is a list of our responses to reviewer’s comments.

Reviewer: 1

- The authors need to described in more details the recruitment procedures and the clinical/demographic characteristics of the study participants.

Answer: We agree with the comments made by the reviewer. We appended this information in the subjects section in text which now reads as follow.

This elderly Han Chinese cohort composed of 485 unrelated peri-centenarian individuals (age\(\geq\)94 for female and age\(\geq\)90 for male; mean age 95.14 \(\pm\) 2.40) were recruited from Dujiangyan in Sichuan province of China. As reported in previous publication [Xie et al. 2008], ages of the subjects were authenticated by the official certification of the Fifth Nation Census in China which was also supported by information of the number of offspring generations (\(\geq\) 3), and local village records. Only subjects with their age supported by both government identity record and local village record and fulfilled the required number of offspring generation were included.

An interview was carried out for each peri-centenarian subjects at their homes by one physician during a home visit session. A brief medical history and examination was carried out to exclude participants with clinically apparent diseases (such as chronic lung disease, chronic heart failure, severe vision disorders, severe hearing disorders, hypertension, fracture, and arthritis severly limiting activity of daily living). More than 500 peri-centenarian individuals (age\(\geq\)94 for female and age\(\geq\)90 for male) have been interviewed but only 485 (246 males and 239 females) individuals who fulfilled all inclusion criteria, were included into this peri-centenarian cohort.
The subjects were randomly selected from how many subjects, from where (hospitals, clinics, home, etc). What was the method used to randomly assigned the subjects.

**Answer:** The “randomly” means that samples were picked blindly to fit into 360 samples (into four 96-well plates) for genotyping.

This information is now included in the method section and reads:

*As we have more samples to fit into four 96-well plates for genotyping (each plate holds 90 samples while the reminding wells were used for QC samples and negative control, i.e. 360 were genotyped in these four 96-well plates), we blindly pull out a consecutive series of 180 male and 180 female samples for genotyping. One additional male sample was used for reaction optimization and his genotype results was also included, which led to a total of 181 male genotyping results.*

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*What is the % of peri-centenarian individuals in Dujiangyan community.*

**Answer:** The demographic characteristics of the study participants were listed in table 1 and also can be found in our previous work [Xie et al. 2008; Gong et al 2009]. We also provided demographic data of another rural area in the adjacent province of China (Hongta of Yunan) for comparison (table 1). Percentages of peri-centenarian in Dujiangyan and Hongta are 0.23% and 0.12%, respectively.

**Table 1. Demographic parameters of subjects in Dujiangyan of Sichuan province and Hongta of Yunnan province, China, 2004-2007**

<table>
<thead>
<tr>
<th>Age</th>
<th>Dujiangyan (person, 2004)</th>
<th>Hongta (person, 2007)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population</td>
<td>622,000</td>
<td>403,000</td>
</tr>
<tr>
<td>90-94 years old</td>
<td>1055</td>
<td>418</td>
</tr>
<tr>
<td>95-99 years old</td>
<td>288</td>
<td>65</td>
</tr>
<tr>
<td>100+ years old</td>
<td>68</td>
<td>5</td>
</tr>
</tbody>
</table>
What is the distribution of the different variables associated with life span (smoking, incomes, chronic diseases, etc) among the cases and controls.

**Answer:** In this study, Dujiangyan is a rural area in China. To be honest, public health, health awareness, disease control and treatment of diseases is fairly primitive in the place from which we collected samples. These oldest people hardly see a doctor in their whole lives, even if they are ill. Therefore, it is difficult to obtain their full medical history (which essentially does not exist). Therefore, we used home-visits, questionnaires, brief medical examination by visiting physicians to screen for a few diseases, such as chronic lung disease, chronic heart failure, severe vision disorders, severe hearing disorders, hypertension, fracture, and arthritis. A questionnaire was used as a standardized checklist for health status, as we did in other work [Ye et al. 2009]. The questionnaire contained questions about sociodemographic characteristics of the subjects (name, sex, place of birth, date of birth, address, marital status, childbearing history, persons with whom the subject was living, educational level, and occupation), anthropometric characteristics (height and weight), lifestyle (nutritional habits, outdoor activity, smoking, alcohol, and farmand housework), and health disorders (hypertension (systolic blood pressure ≥140mmHg or a diastolic blood pressure ≥90mmHg), arthritis, fractures, severe vision and hearing disorders). In this project, three persons are responsible for the home visits: two physicians, SG Lian and Y Zhao in people’s hosptal of Dujiangyan, is in charge of these materials of clinics and life-style; YY Gong in YP Zhang’s lab for materials of physical examination. Unfortunatily, we lost raw data and questionnaires of life-style factors in the 2008 Sichuan earthquake. Nonetheless, some information such as glucose and lipid profile was available in summary form in previous publications from this cohort [Gong et al. 2009 and Xie et al 2008].
Reference

We hope that our revised manuscript meets your requirements.

Sincerely yours,

Ya-Ping Zhang