Reviewer's report

Title: Common Polymorphisms of Calpain-10 and the Risk of Type 2 Diabetes in a Tunisian Arab Population: a case-control study

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Reviewer: Kazuki Yasuda

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In this manuscript, Ezzidi et al examined the association of SNPs and haplotypes of CAPN10 gene with type 2 diabetes in Tunisians. They found that UCSNP-19 variants (2R and 2R/2R) and the 111 haplotype (UCSNP-43/-19/-63) were associated with type 2 diabetes. Both positive and negative association of CAPN10 variants with the disease have been reported in various ethnic groups, and this paper may add some new information to those reports.

#Major Compulsory Revisions#

1. As the authors pointed out, this paper contained some inconsistency with the previous reports in Tunisians. There was no information on Arab or non-Arab subjects in the panel, although the title said “Tunisian Arab populations”. This point should be clearly stated in the text and discussed.

2. As for the haplotypes with three SNP sites, comparison of various human populations as well as primates has been reported, and 111-haplotype was believed as the ancestral allele. 121-and 221-haplotypes were selected outside Africa, while 112 was favored in Africans. From the haplotype frequencies, the authors concluded their subjects were ethnically more close to Europeans than Africans, Does this hold true with other SNPs examined formerly in the same panel (ref-18)?

3. If they insisted on this point, then the authors should compare their LD block structure and risk haplotypes with those reported in Caucasians. What seemed to be the reason for discrepancies, especially for the association of 111 rather than 121 haplotypes with diabetes?

4. Another candidate SNP, UCSNP-44, near SNP43 has been associated with diabetes in several populations. This SNP should be also examined.

5. How was the association of UCSNP-19 after adjustment for BMI, since 2R/2R was associated with increased body weight in patients? What could be the reason for this association with obesity in their panel?

#Minor Essential Revisions#

1. The Abstract should be more carefully written. PCR-RFPL (Methods) should be PCR-RFLP and fully spelled out.

2. P4. Lines21#22: the sentence is mixed up. “Dipoltypes” should be read as “Diplotypes”.
3. English should be corrected throughout the manuscript.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.