Reviewer's report

Title: Expression of a novel short isoform of the kidney disease protein podocin in human kidney

Version: 1 Date: 28 August 2012

Reviewer: Hiroyasu Tsukaguchi

Reviewer's report:

Völke et al have characterized a short form of podocin, which only exists in human kidney but not in other species. All the experiments were carefully done by established protocols and figures are of high quality. The deletion of the exon 5-coded amino acids could be incorporated into the lipid raft membrane microdomain. The data suggest that the transmembrane domain and the two palmitoylation sites of podocin are sufficient to mediate a proper lipid and protein interaction.

Major points

1 This in-flame exon deletion was originally reported by Horinouchi I et al (Kidney International 2003) and has been more extensively studied by Relle M et al (Mod Pathol, 2011). The whole sequence of podocin short variant was shown in the previous paper (Relle M et al) as exactly same as in this paper. Therefore, despite of some additional biochemical and immunocytochemistry data provided in the current paper, the podocin short variant is not truly “novel” protein.

2 The relevance of N-glycosylation of short variants remains unclear, if they are mostly localized within ER and are hardly trafficked to the Golgi, the key organelle which organizes the generation of mature sugar chains. Expression in different systems (host cells and/or vector promoters) may be helpful to evaluate the cellular functions of short variants.

Minor points

1 In Abstract/conclusion page 2, it might be better to emphasize what are the new aspects of short variant of podocin more specifically from the current observations e.g., glycosylation, floating property, ER localization. etc, instead of giving an inclusive remark of “the functional implication of this isoform is still elusive”

Level of interest: An article of limited interest

Quality of written English: Acceptable

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