

## Targeting the innate immune receptor TLR8 using small-molecule agents. Corrigendum

Kentaro Sakaniwa and Toshiyuki Shimizu\*

Graduate School of Pharmaceutical Sciences, The University of Tokyo, Hongo, Bunkyo-ku, Tokyo 113-0033, Japan.

\*Correspondence e-mail: shimizu@mol.f.u-tokyo.ac.jp

Received 6 August 2020

Accepted 6 August 2020

**Keywords:** Toll-like receptors; innate immunity; structural biology; agonist; antagonist; corrigendum

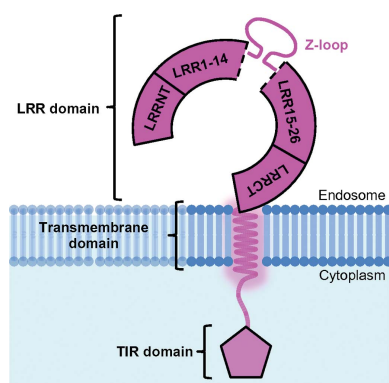
Three of the figures in the article by Sakaniwa & Shimizu [(2020), *Acta Cryst. D76*, 621–629] were incorrectly annotated. Corrected figures are published here.

In the article by Sakaniwa & Shimizu (2020) some residue labels were interchanged and hydrogen bonds were wrongly connected in Figs. 2, 3 and 5. In Fig. 2(*g*) the labels for D545\* and D543\* were interchanged and hydrogen bonds were wrongly connected. In Figs. 3(*a*)–3(*c*) the labels for D545\* and D543\* were interchanged and hydrogen bonds were wrongly connected. In Fig. 5(*b*) hydrogen bonds were wrongly connected.

Corrected figures are published here, and the main-chain atoms that were not involved in the interaction have been removed for clarity in Figs. 2(*g*)–2(*i*), Fig. 3 and Fig. 5.

### References

Sakaniwa, K. & Shimizu, T. (2020). *Acta Cryst. D76*, 621–629.



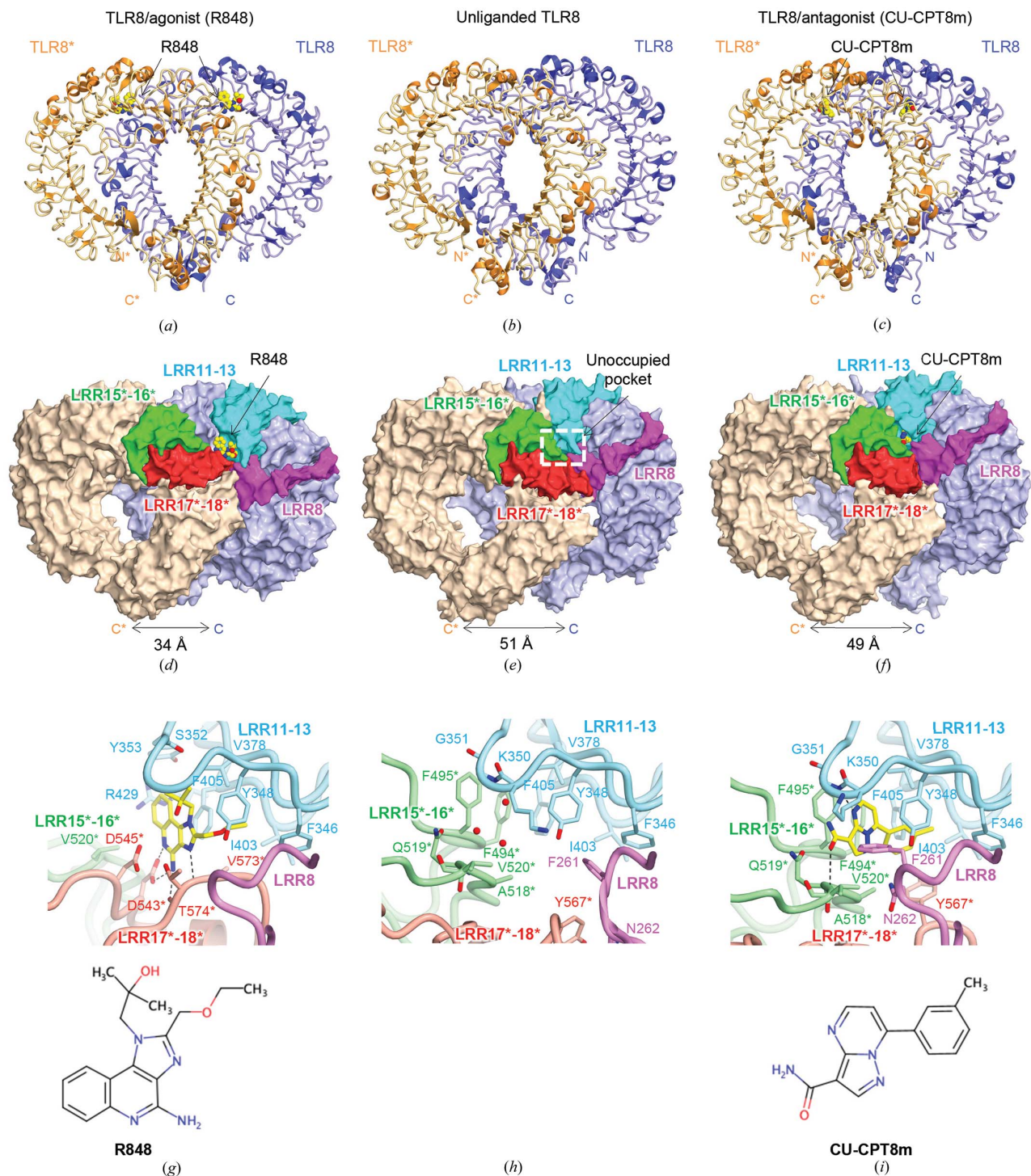


Figure 2

Structures of agonist-bound, unliganded and antagonist-bound forms. (a, b, c) The crystal structures of (a) agonist (R848)-bound, (b) unliganded and (c) antagonist (CU-CPT8m)-bound forms. A representative image of one protomer is colored blue and the other is colored orange and marked with an asterisk (\*). The ligands are represented as ball-and-stick models in which C atoms are represented in yellow, O atoms in red and N atoms in blue. (d, e, f) The overall structures of (d) agonist-bound, (e) unliganded and (f) antagonist-bound forms. The leucine-rich repeat (LRRs) around the ligand-recognition sites are highlighted in purple (LRR8), cyan (LRR11–13), green (LRR15\*–16\*) and red (LRR17\*–18\*). The unoccupied pocket is shown by a white dashed rectangle. In the agonist-bound structure, the C-terminal regions are closer than those in the inactivated structures. The antagonist-bound structure was similar to the unliganded structure. (g, h, i) Close-up views around (g) the agonist-bound site (PDB entry 3w3l), (h) the unoccupied pocket (PDB entry 5wyx) and (i) the antagonist-bound site (PDB entry 3w3g). The chemical structure of each ligand is shown below the close-up view. Interactions of the agonist involve hydrophobic residues such as Phe346, Tyr348, Gly376, Val378, Ile403–Phe405, Val520\*, Asp543\*, Gly572\*–Thr574\* and some hydrogen bonds. Interactions of the antagonist involve hydrophobic residues such as Phe261, Phe346, Val378, Ile403, Phe405, Phe494\*, Ala518\*, Val520\* and Tyr567\*, stacking interactions with Tyr348 and Phe495\* and some hydrogen bonds. LRR11–13 confront LRR15\*–16\* in the unliganded structure and the antagonist-bound structure, while LRR11–13 mainly interact with LRR17\*–18\* in the agonist-bound structure.

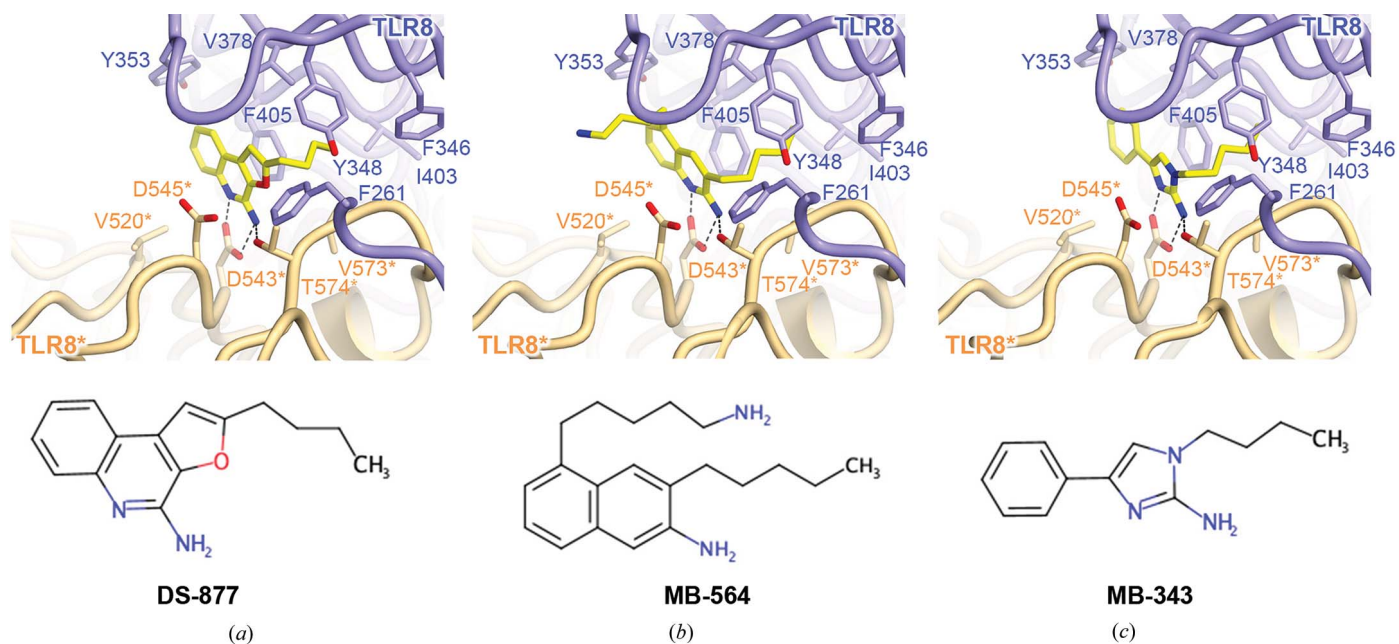


Figure 3

Close-up views of agonist recognition. (a, b, c) Close-up views around the agonist-bound site with (a) DS-877 (PDB entry 3wn4), (b) MB-564 (PDB entry 5awc) and (c) MB-343 (PDB entry 5az5). The agonists are represented as ball-and-stick models in which C atoms are represented in yellow, O atoms in red and N atoms in blue. Hydrogen bonds are indicated using dashed lines. The chemical structure of each ligand is shown below the close-up view.

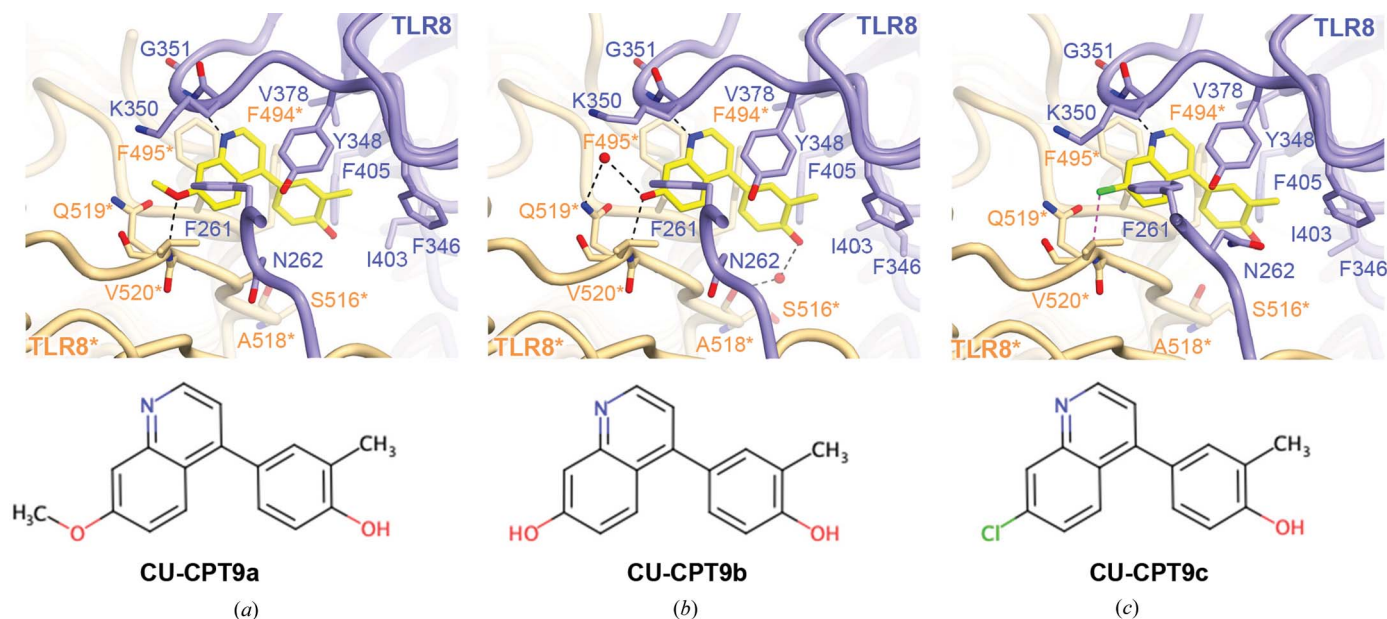


Figure 5

Close-up views of antagonist recognition. (a, b, c) Close-up views around the antagonist-bound site with (a) CU-CPT9a (PDB entry 5z14), (b) CU-CPT9b (PDB entry 5wyz) and (c) CU-CPT9c (PDB entry 5z15). The agonists are represented as ball-and-stick models in which C atoms are represented in yellow, O atoms in red, N atoms in blue and chloride ions in green. Hydrogen bonds are shown as black dashed lines and the halogen bond is shown as a magenta dashed line. The chemical structure of each ligand is shown below the close-up view.