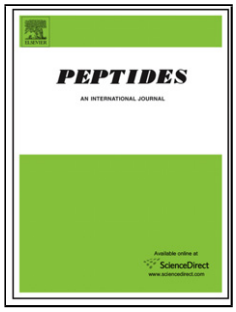


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# Structure, folding and stability of a minimal homologue from *Anemonia sulcata* of the sea anemone potassium channel blocker ShK

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## Graphical abstract

AsK132958 is a 29-residue peptide identified in a transcriptomic study of *Anemonia sulcata*. It has the same disulfide framework and a similar structure to ShK. AsK132958 is not active against $K_V1.3$ channels, owing to the lack of a Lys-Tyr dyad and other functionally important amino acid residues. AsK132958 is more resistant to proteolysis than ShK. Introducing a Lys-Tyr functional dyad to the AsK132958 structural scaffold may be a useful way of developing a proteolytically stable $K_V1.3$ blocker.