CLAIMS

1. An isolated delta opioid receptor agonist peptide, wherein the peptide comprises:

(a) the amino acid sequence:

$X_2X_3X_4X_5X_6X_7X_8X_9X_{10}X_{11}X_{12}X_{13}X_{14}X_{15}X_{16}X_{17}X_{18}X_{19}$,

wherein, independently of each other:

X_2 is D, K, or R;

X_3 is G, K, S, or W;

X_4 is A, D, F, G, K, W, or Y;

X_5 is A, C, D, E, G, H, K, N, S, or Y;

X_6 is A, D, E, G, I, K, L, Q, or V;

X_7 is A, E, G, I, L, M, V, or W;

X_8 is A, D, G, S, or V;

X_9 is A, C, F, H, I, K, L, P, Q, R, T, V, or W;

X_{10} is A, C, D, E, G, H, K, P, Q, R, V, W, or Y;

X_{11} is A, E, H, N, Q, or R;

X_{12} is A, G, L, P, Q, T, or V;

X_{13} is A, K, P, or S;

X_{14} is A, F, I, K, L, or Y;

X_{15} is K, L, P, or V;

X_{16} is A, K, L, P, or S;

X_{17} is A, C, D, H, K, N, Q, R, S, or Y

X_{18} is A, G, I, K, or V; and

X_{19} is A, D, F, K, or S, or

(b) a fragment of the amino acid sequence of part (a), wherein the fragment is from 3-17 amino acids in length, or

(c) a retro-inverso variant of the amino acid sequence of part (a) or part (b), or

(d) a variant of the amino acid sequence of part (a), (b), or (c), wherein one or more amino acids is added, deleted, or substituted with a different amino acid, or

(e) a variant of the amino acid sequence of part (a), (b), (c), or (d) wherein one or more of the amino acids is a modified amino acid.

2. An isolated delta opioid receptor agonist peptide according to claim 1, comprising the amino acid sequence of any one of PEP NO: and/or SEQ ID NO: 157, 1-156, 158-315, 438-752 or 747-875.

3. An isolated peptide according to claim 2, comprising the amino acid sequence of any one of PEP NO: and/or SEQ ID NO: 157, 1-156, 158-315.

4. An isolated peptide according to claim 3, comprising the amino acid sequence of any one SEQ ID NO: 157, 16, 17, 24, 86, 87, 162, 163, 164, 165, 166, 167, 170, 171, 173, 175, 177, 178, 179, 182, 183, 185, 186, or 187.

5. An isolated peptide according to claim 4, comprising the amino acid sequence of any one of SEQ ID NO: 157, 16, 17, 86, 87, 162, 167, or 171.

6. An isolated peptide according to claim 5, comprising the amino acid sequence of SEQ ID NO: 157.

7. A composition comprising a peptide according to any one of claims 1-6, and at least one pharmaceutically acceptable carrier or excipient.

8. A peptide according to any one of claims 1-6 or a composition according to claim 7, for use as a medicament.

9. Use of a peptide according to any one of claims 1-6 or a composition according to claim 7, in the manufacture of a medicament for the treatment of pain by activating a delta opioid receptor, wherein the activation of the delta opioid receptor is to be performed in vitro or in vivo.