CLAIMS:

1. Use of a co-crystal of (rac)-tramadol·HCl and celecoxib in the manufacture of a medicament for the treatment of pain in a patient with an addiction to tramadol while reducing the abuse liability of tramadol,
wherein the molecular ratio between the (rac)-tramadol·HCl and celecoxib is 1:1, and wherein the co-crystal shows a Powder X-Ray Diffraction pattern with peaks [2θ] at 14.1, 16.8, 19.0 and 22.7[°], with the 2θ values being obtained using copper radiation (CuKα1 1.54060Å).

2. The use according to claim 1, characterized in that the co-crystal shows additional peaks [2θ] at 7.1, 19.9 and 20.5[°].

3. The use according to claim 2, characterized in that the co-crystal shows additional peaks [2θ] at 13.6, 13.9, 17.5, 18.0, 19.5, 21.2, 21.3, 21.8, 22.6, 23.6, 24.1, 24.4 and 26.1 [°].

4. The use according to any one of claims 1 to 3 comprising (rac)-tramadol·HCl and celecoxib in a molecular ratio of 1:1, wherein the co-crystal shows a Powder X-Ray Diffraction pattern with peaks [2θ] at 7.1, 9.3, 10.2, 10.7, 13.6, 13.9, 14.1, 15.5, 16.1, 16.2, 16.8, 17.5, 18.0, 19.0, 19.5, 19.9, 20.5, 21.2, 21.3, 21.4, 21.8, 22.1, 22.6, 22.7, 23.6, 24.1, 24.4, 25.2, 26.1, 26.6, 26.8, 27.4, 27.9, 28.1, 29.1, 29.9, 30.1, 31.1, 31.3, 31.7, 32.5, 32.8, 34.4, 35.0, 35.8, 36.2 and 37.2[°], with the 2θ values being obtained using copper radiation ($Cu_{K\alpha1}$ 1.54060Å).

5. The use according to any one of claims 1 to 4 comprising (rac)-tramadol·HCl and celecoxib in a molecular ratio of 1:1, wherein the co-crystal shows a Fourier Transform Infra Red pattern with absorption bands at 3481.6 (m), 3133.5 (m), 2923.0 (m), 2667.7 (m), 1596.0 (m), 1472.4 (m), 1458.0 (m), 1335.1 (m), 1288.7 (m), 1271.8 (m), 1168.7 (s), 1237.3 (m), 1168.7 (s), 1122.6 (s), 1100.9 (m), 1042.2 (m), 976.8 (m), 844.6 (m), 820.1 (m), 786.5 (m) 625.9 (m) cm^{-1}.

6. The use according to any one of claims 1 to 5 comprising (rac)-tramadol·HCl and celecoxib in a molecular ratio of 1:1, wherein the co-crystal has an orthorhombic unit cell with the following dimensions:

a = 11.0323(7) Å
b = 18.1095(12) Å
c = 17.3206(12) Å.

7. The use according to any one of claims 1 to 6 comprising (rac)-tramadol·HCl and celecoxib in a molecular ratio of 1:1, wherein for the co-crystal the endothermic sharp peak corresponding to the melting point has an onset at 164°C.

8. The use according to any one of claims 1 to 7, wherein the pain is of acute pain, chronic pain, neuropathic pain, nociceptive pain, mild and severe to moderate pain, hyperalgesia, pain related to central sensitization, allodynia or cancer pain, including diabetic neuropathy or diabetic peripheral neuropathy and osteoarthritis, fibromyalgia; rheumatoid arthritis, ankylosing spondylitis, frozen shoulder or sciatica.

9. The use according to any one of claims 1 to 8, wherein the pain is acute and chronic moderate to severe pain, acute moderate to severe pain, acute moderate pain, acute severe pain, chronic moderate to severe pain, chronic moderate pain, or chronic severe pain.

10. The use according to any one of claims 1 to 9, wherein the co-crystal is comprised in a pharmaceutical composition also comprising at least a solubility enhancer polymer; wherein the solubility enhancer polymer is selected from polyvinyl caprolactam-polyvinyl acetate-polyethylene glycol graft copolymer or from copovidone, povidone, cyclodextrin, polyethylene glycol and lauroyl macrogol-32 glycerides EP, preferably wherein the solubility enhancer polymer is selected from polyvinyl caprolactam-polyvinyl acetate-polyethylene glycol graft copolymer or other hydrophilic polymers selected from copovidone, or povidone, most preferably wherein the solubility enhancer polymer is copovidone.