CLAIMS

What is claimed is:

1. ~~A method of inducing a localized analgesic effect in a subject, the method comprising topically administering to the subject a therapeutically effective amount~~Use of a dicarboxylic acid ester having the formula $R_2OOC-(CH_2)_n-COOR_1$, in the manufacture of a medicament for inducing a localized analgesic effect in a subject, wherein each R_1 and R_2 are independently a lower alkyl, and n is between 4 and 10, wherein the dicarboxylic acid ester is present in an amount of from about 20% to about 100% by weight of the medicament, and wherein a therapeutically effective amount of the dicarboxylic acid ester is to be administered topically to the subject.

2. The ~~method~~use of claim 1, wherein the dicarboxylic acid ester is an azelaic acid ester.

3. The ~~method~~use of claim 2, wherein the azelaic acid ester is diethyl azelate.

4. The ~~method~~use of claim 1, wherein the subject is suffering from a pain selected from the group consisting of acute pain, chronic pain, nociceptive pain, neuropathic pain, and nociplastic pain.

5. The ~~method~~use of claim 1, wherein the pain is selected from the group consisting of traumatic pain, chemical pain, burn pain, ischemic pain, insect bite pain, prickling pain, musculoskeletal pain, rheumatoid or osteoarthritis pain, post-surgical pain, bone pain, and skin-related pain.

6. The ~~method~~use of claim 1, wherein inducing the localized analgesic effect is accomplished by disrupting a lipid raft of the subject by the dicarboxylic acid ester.

7. The ~~method~~use of claim 6, wherein the lipid raft comprises monosialotetrahexosylganglioside1 (GM1).

8. The ~~method~~use of claim 6, wherein the lipid raft comprises phospholipase D2 (PLD2).

9. The ~~method~~use of claim 6, wherein the disrupting of the lipid raft membrane results from the increase of the plasma membrane fluidity.

10. The ~~method~~use of claim 1, wherein inducing the localized analgesic effect, thereby inhibiting pain in the subject, comprises activating one or more receptors selected from the group consisting of pattern recognition receptors (PRR), nucleotide oligomerization domain (NOD) receptors, and Dectin receptors.

11. The ~~method~~use of claim 1, wherein inducing the analgesic effect, thereby inhibiting pain in the subject, comprises promoting the synthesis or release of the activity and/or expression of one or more of leptin, macrophage colony-stimulating factor (M-CSF), granulocyte colony-stimulating factor (G-CSF), granulocyte macrophage colony-stimulating factor (GM-CSF).

12. The ~~method~~use of claim 1, wherein inducing the localized analgesic effect, thereby inhibiting pain in the subject, comprises inhibiting the synthesis or release of the activity and/or expression of at least one of adenosine triphosphate (ATP), inducible nitric oxide synthase (iNOS) and prostaglandin E2 (PGE2).

13. The ~~method~~use of claim 1, wherein the ~~administering~~administration is to be performed at about every 4 to about 8 hours.

14. The ~~method~~use of claim 1, wherein the ~~administering~~administration is for a duration of from 1 day to 30 days.

15. The ~~method~~use of claim 1, wherein the subject is a human.

16. ~~A~~Use of a formulation in the manufacture of a medicament for inducing a localized analgesic effect in a subject, ~~comprising~~wherein the formulation comprises:

~~administrating to the subject~~ from about 20% to about 100% by weight of the formulation of a therapeutically effective amount of a dicarboxylic acid ester having the formula $R_2OOC-(CH_2)_n-COOR_1$, wherein each R_1 and R_2 are independently a lower alkyl, and n is between 4 and 10; and

a pharmaceutically acceptable carrier;

and wherein the formulation is to be administered to the subject.

17. The ~~formulation~~use of claim 16, wherein the dicarboxylic acid ester is an azelaic acid ester.

18. The ~~formulation~~use of claim 17, wherein the azelaic acid ester is diethyl azelate.

19. The ~~formulation~~use of claim 16, wherein the dicarboxylic acid ester is an active ingredient of the formulation.

~~20. The formulation of claim 16, wherein the dicarboxylic acid ester is present in a therapeutically effective amount of from about 5% weight to about 100% weight based on the total weight of the formulation.~~