CLAIMS

1. Use of Brain-Derived Neurotrophic Factor (BDNF) in the manufacture of a medicament for the prevention of a hearing loss induced by a platinum-based chemotherapy drug in a subject, wherein said BDNF is to be administered intratympanically to said subject.

2. The use as claimed in claim 1, wherein said BDNF is to be administered to said subject prior to, concurrently with, or after the administration of the platinum-based chemotherapy drug, at a time point between 6 hours prior to and 6 hours after the administration of said platinum-based chemotherapy drug, preferably at a time point between 2 hours prior to and 4 hours after the administration of said platinum-based chemotherapy drug.

3. The use as claimed in claim 2, wherein said BDNF is to be administered to said subject 1 hour after the administration of said platinum-based chemotherapy drug.

4. The use as claimed in any one of claims 1 to 3, wherein said BDNF is for the reduction of the likelihood to have a hearing loss induced by said platinum-based chemotherapeutic in said subject.

5. The use as claimed in any one of claims 1 to 4, wherein said BDNF reduces by at least 40%, preferably by at least 50%, more preferably by at least 60%, even more preferably by at least 70%, even more preferably by at least 80%, the likelihood to have a hearing loss induced by said platinum-based chemotherapy drug in said subject.

6. The use as claimed in any one of claims 1 to 3, wherein said BDNF is for the prevention of the onset of a hearing loss induced by a platinum-based chemotherapy drug in said subject.

7. The use as claimed in any one of claims 1 to 6, wherein said platinum-based chemotherapeutic is selected from cisplatin, carboplatin, oxaliplatin, nedaplatin, triplatin tetranitrate, phenanthriplatin, picoplatin, and satraplatin, preferably from cisplatin, carboplatin, oxaliplatin, nedaplatin, and a combination of any thereof, more preferably it is cisplatin.

8. The use as claimed in any one of claims 1 to 7, wherein said BDNF is to be administered in a pharmaceutical acceptable composition at a concentration of between 1 mg/ml and 15 mg/ml.

9. The use as claimed in claim 8, wherein said BDNF is to be administered in said pharmaceutical composition at a concentration of between 3 mg/ml and 10 mg/ml, even more preferably between 4 mg/ml and 7 mg/ml, even more preferably of 7 mg/ml.

10. The use as claimed in claim 8, wherein said BDNF is to be administered in said pharmaceutical composition at a concentration of between 1 mg/ml and 5 mg/ml, even more preferably between 2 mg/ml and 4 mg/ml, even more preferably of 3 mg/ml.

11. The use as claimed in any one of claims 1-10, wherein said BDNF is to be administered in a thermoreversible gel formulation.

12. The use as claimed in claim 11, said thermoreversible gel formulation has the following composition:

a) between 0.05%(w/v) and 0.2%(w/v), preferably 0.1%(w/v) of hydroxypropyl methylcellulose;

b) between 2%(w/v) and 4%(w/v), preferably 3%(w/v), of Poloxamer 188 (Kolliphor P188);

c) between 20%(w/v) and 25%(w/v), preferably 23%(w/v), of Poloxamer 407 (Kolliphor P407);

d) water or phosphate buffer.

13. The use as claimed in any one of claims 1 to 12, wherein said hearing loss is measured by an audiometry test.

14. The use as claimed in claim 13, wherein no hearing loss is present in subjects that in an audiometry test detect sounds below 25 dB at frequencies of 250-8,000 Hz.

15. The use as claimed in any one of claims 1 to 14, wherein said prevention of a hearing loss is determined by comparing the hearing function of the patient after administration of the platinum-based chemotherapy drug to the baseline hearing function of the subject prior to administration of the platinum-based chemotherapy drug.

16. The use as claimed in any one of claims 1 to 15, wherein said BDNF is human BDNF, more preferably it is recombinant human BDNF

17. The use as claimed in any one of claims 1 to 16, wherein said BDNF has a purity higher than 70%, more preferably higher than 80%, higher than 90%, higher than 95%, higher than 98% or higher than 99%.