CLAIMS

1. A device for mixing biological specimens contained in flexible storage bags (104) at controlled temperature, which flexible storage bags (104) may serve, in addition to storage, for the collection, freezing storage or transfer of biological specimens, the device comprising:

    a) A support (105) for supporting a storage bag (104) containing a biological specimen to be mixed;

    b) Means for imparting a displacement to the specimen in the storage bag (104) on the support (105) to mix the specimen; and

    c) Temperature control means for maintaining the specimen at a controlled temperature during mixing; wherein

    d) Said means for imparting displacement to the specimen comprises at least one inflatable/deflatable bag (102, 103) that when inflated contacts the surface of a part of the storage bag (104) to progressively squeeze the storage bag (104) and displace the contained specimen into another part of the storage bag (104);

characterized in that

- the support (105) is a base plate (105) on which the storage bag (104) can be laid,
- the inflatable/deflatable bag (102, 103) is located under a cover (101) that fits over the support (105), the inflatable/deflatable bag (102, 103) being located over the location of a supported storage bag (104) and under the cover (101), the cover (101) is pivotally mounted on the support (105) between a closed position and an open position, and
- the device further comprises means for locking the cover (101) in the closed position on the support (105) to prevent the cover (101) from opening as a result of inflation of the inflatable/deflatable bag (102, 103) during mixing.

2. The device according to claim 1, which further comprises means for supplying an additive to the biological specimen in a storage bag (104) placed on the support (105), before and/or during mixing.

3. The device according to claim 1 or 2, further comprising a lip that projects from the cover (101) and/or from the support (105) for constricting a storage bag (104) on the support (105).

4. The device according to claim 3, comprising at least one removable lip that can be removably fixed on the cover (101) and/or on the support (105).

5. The device according to claim 3 or 4, wherein the support (105) is configured to receive one large storage bag (104) or two small storage bags (104), the support and/or the cover (101) having a lip that constricts a middle part of the large storage bag (104) when fitted and on either side of which the small storage bags (104) can be fitted.

6. The device according to any preceding claim, wherein the temperature control means comprises at least one Peltier element located under the support (105) above a heat sink.

7. A method of mixing biological specimens in flexible storage bags (104) in a device according to any preceding claim, held at controlled temperature in the device, comprising imparting displacement to a specimen in a storage bag (104) by repeatedly inflating and deflating an inflatable/deflatable bag (102, 103) such that when the inflatable/deflatable bag (102, 103) is inflated it contacts the surface of a part of a storage bag (104) to progressively squeeze the storage bag (104) and displace the contained specimen into another part of the storage bag (104) wherein during said inflating of the inflatable/deflatable bag (102, 103) the device's cover (101) is held in its closed position by said means for locking it.

8. A method of claim 7, wherein additive is supplied to the specimen contained in the storage bag (104) during mixing.

9. Use of the device according to any one of claims 1-6 for mixing biological specimens selected from whole blood, placenta/umbilical cord blood, bone marrow, apheresis product, or stromal vascular fraction (SVF).