What is claimed is:

1. A cell culture composition for expanding a cell population comprising lineage-committed epithelial cells, comprising

a) a serum-free and feeder cell-free base medium,

b) one or more transforming growth factor beta (TGF-beta) inhibitors, and

c) one or more agents that modulate cytoskeletal structure.

2. The cell culture composition of claim 1, wherein the one or more transforming growth factor beta (TGF-beta) inhibitors comprise one or more inhibitors of ALK5, ALK4, and/or ALK7.

3. The cell culture composition of claim 2, wherein the one or more inhibitors of ALK5, ALK4, and/or ALK7 are selected from A83-01, GW788388, RepSox, and SB 431542.

4. The cell culture composition of claim 1, wherein the one or more agents that modulate cytoskeletal structure comprise one or more inhibitors selected from a Rho-associated protein kinase inhibitor, a p21-activated kinase (PAK) inhibitor, and a myosin II inhibitor.

5. The cell culture composition of claim 4, wherein the Rho-associated protein kinase inhibitor is selected from Y-27632, SR 3677, thiazovivin, HA1100 hydrochloride, HA1077 and GSK-429286; the PAK inhibitor is IPA3; and the myosin II inhibitor is blebbistatin.

6. The cell culture composition of claim 1, further comprising one or more components chosen from:

a beta-adrenergic receptor agonist,

calcium at a concentration below 100 μM, and

one or more mitogenic growth factors.

7. The cell culture composition of claim 6, wherein the beta-adrenergic receptor agonist is isoproterenol.

8. A cell culture composition for expanding a cell population comprising lineage-committed epithelial cells, comprising

a) a serum-free and feeder cell-free base medium;

b) one or more transforming growth factor beta (TGF-beta) inhibitors;

c) one or more agents that modulate cytoskeletal structure;

d) a beta-adrenergic receptor agonist;

e) one or more mitogenic growth factors; and

f) calcium at a concentration below 100 μM.

9. The cell culture composition of claim 8, wherein the one or more transforming growth factor beta (TGF-beta) inhibitors comprise one or more inhibitors of ALK5, ALK4, and/or ALK7; and the one or more agents that modulate cytoskeletal structure comprise one or more inhibitors selected from a Rho-associated protein kinase inhibitor, a p21-activated kinase (PAK) inhibitor, and a myosin II inhibitor.

10. The cell culture composition of claim 9, wherein the one or more inhibitors of ALK5, ALK4, and/or ALK7 are selected from A83-01, GW788388, RepSox, and SB 431542; the Rho-associated protein kinase inhibitor is selected from Y-27632, SR 3677, thiazovivin, HA1100 hydrochloride, HA1077 and GSK-429286; the PAK inhibitor is IPA3; and the myosin II inhibitor is blebbistatin.

11. A composition comprising

a) a cell population comprising lineage-committed epithelial cells in a serum-free and feeder cell-free base medium;

b) one or more transforming growth factor beta (TGF-beta) inhibitors; and

c) one or more agents that modulate cytoskeletal structure.

12. The composition of claim 11, wherein the one or more transforming growth factor beta (TGF-beta) inhibitors comprise one or more inhibitors of ALK5, ALK4, and/or ALK7.

13. The composition of claim 12, wherein the one or more inhibitors of ALK5, ALK4, and/or ALK7 are selected from A83-01, GW788388, RepSox, and SB 431542.

14. The composition of claim 11, wherein the one or more agents that modulate cytoskeletal structure comprise one or more inhibitors selected from a Rho-associated protein kinase inhibitor, a p21-activated kinase (PAK) inhibitor, and a myosin II inhibitor.

15. The composition of claim 14, wherein the Rho-associated protein kinase inhibitor is selected from Y-27632, SR 3677, thiazovivin, HA1100 hydrochloride, HA1077 and GSK-429286; the PAK inhibitor is IPA3; and the myosin II inhibitor is blebbistatin.

16. The composition of claim 11, further comprising one or more components chosen from:

a beta-adrenergic receptor agonist,

calcium at a concentration below 100 μM, and

one or more mitogenic growth factors.

17. The composition of claim 16, wherein the beta-adrenergic receptor agonist is isoproterenol.

18. A composition comprising

a) a cell population comprising one or more of basal epithelial cells, epithelial progenitor cells, epithelial precursor cells, differentiating epithelial cells, differentiated epithelial cells, and transit-amplifying epithelial cells;

b) one or more transforming growth factor beta (TGF-beta) inhibitors; and

c) one or more agents that modulate cytoskeletal structure.

19. The composition of claim 18, wherein the one or more transforming growth factor beta (TGF-beta) inhibitors comprise one or more inhibitors of ALK5, ALK4, and/or ALK7; and the one or more agents that modulate cytoskeletal structure comprise one or more inhibitors selected from a Rho-associated protein kinase inhibitor, a p21-activated kinase (PAK) inhibitor, and a myosin II inhibitor.

20. The composition of claim 19, wherein the one or more inhibitors of ALK5, ALK4, and/or ALK7 are selected from A83-01, GW788388, RepSox, and SB 431542; the Rho-associated protein kinase inhibitor is selected from Y-27632, SR 3677, thiazovivin, HA1100 hydrochloride, HA1077 and GSK-429286; the PAK inhibitor is IPA3; and the myosin II inhibitor is blebbistatin.