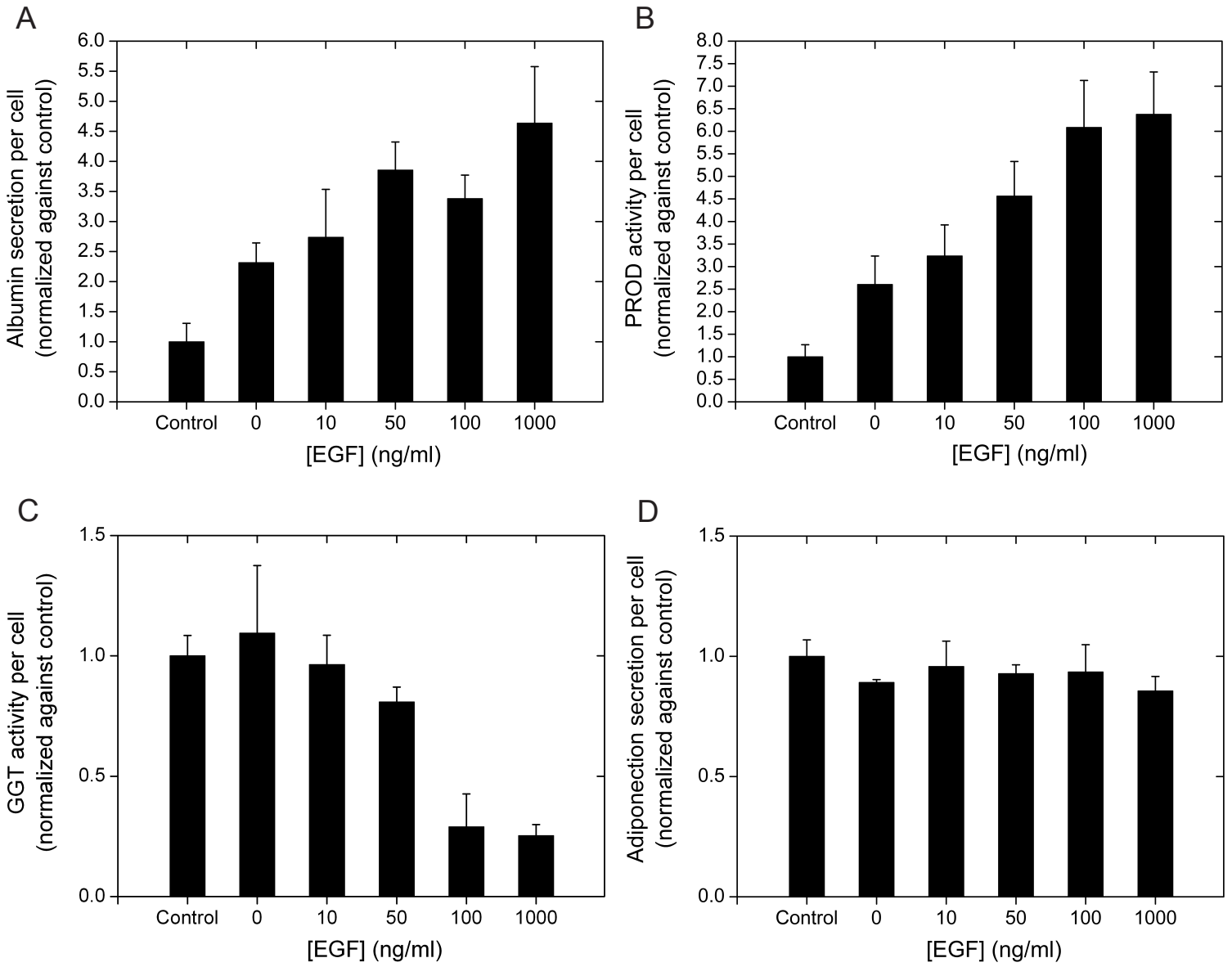
Supplementary information: Preparation of Common Medium

Each cell type has its own optimized standard serum-free medium (OSM) established, available either from literature or from the manufacture's protocol. From these OSMs, a common medium (CM) for culturing all the four cell types was developed. The basal medium of the CM was a mixture of all the basal media in different OSM. The growth factors and supplements used in each OSM were also incorporated in the CM at their appropriate concentrations (Table 1). The concentration of EGF, a common growth factor used in three of the standard media, was optimized for each cell type. We found that 50 ng/ml of EGF can efficiently maintain or enhance the functions of every cell type to be used. (Supplementary Fig. 1).

Table 1. Composition of the growth factors and supplements used in CM. The basal medium consists of MEM, DMEM/F12-K and RPMI 1640 in 1:1:1 ratio.

Component	Concentration
Hepatocyte growth factor	30 ng/ml
Oncostatin M	35 ng/ml
Epidermal growth factor	50 ng/ml
Insulin	0.5 μg/ml
Transferrin	10 μg/ml
Bovine serum albumin	1 mg/ml
Hydrocortisone	50 nM
Sodium selenite	25 nM
Dexamethasone	400 ng/ml

Supplementary Figure 1. Optimization of EGF concentration in the CM. The functions of each of the four types of cells in monolayer culture under a range of EGF concentration were assessed by measuring **(a)** albumin secretion, **(b)** PROD activity, **(c)** GGT activity, and **(d)** adiponection secretion for C3A, A549, HK-2 and HPA, respectively. At 50-1000 ng/ml of EGF, the functions of C3A and A549 cells were stimulated by more than 3 fold, and that of HPA were slightly affected (slight inhibitory effect of ~10%). However, at above 50 ng/ml of EGF, the function of HK-2 cells dropped drastically by ~75% compared to the control. Therefore, a concentration of 50 ng/ml of EGF was used in the CM for optimized functions of all cell types. Data are the mean ± s.e.m. of 2 independent experiments



Supplementary Fig. 1
C. Zhang *et al.*, 2009