

## Title (en)

MATERIALS AND REACTOR SYSTEMS HAVING HUMIDITY AND GAS CONTROL

## Title (de)

MATERIALIEN UND REAKTORSYSTEME MIT FEUCHTIGKEITS- UND GASREGELUNG

## Title (fr)

MATERIAUX ET SYSTEMES DE REACTEUR AVEC REGULATION DE L'HUMIDITE ET DU GAZ

## Publication

**EP 1509315 A2 20050302 (EN)**

## Application

**EP 03736881 A 20030605**

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- US 0317816 W 20030605
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## Abstract (en)

[origin: WO03103813A2] The present invention is directed to materials and reactor systems having humidity and/or gas control. The material may have high oxygen permeability and/or low water vapor permeability. In some cases, the material may have sufficient permeance and/or permeability to allow cell culture to occur in a chip or other reactor system using the material. In certain embodiments, the material may be positioned adjacent to or about a reaction site within a chip or reactor; in other embodiments, the material may be positioned such that it is in fluidic communication with the reaction site. The material may also be porous and/or transparent in some cases. In one set of embodiments, the material include a polymer that is branched, and/or contains bulky side groups that allow the polymer to have a more open structure. In some cases, the material may include two or more layers. Each layer may have a desired property, which may include, for example, permeability, transparency, cytophilicity, biophilicity, hydrophilicity, or a structural feature. In some embodiments, the material may be chosen so as to promote cell growth within the chip or reactor.

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## Cited by

US6840069B2; US6670317B2; US6828292B2

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