

## Serum-free Media

Endopan 300 SL is the first complete medium specially developed for the serum-free in vitro culture of human endothelial cells containing all components necessary for optimal growth.

Endothelial cells line blood and lymphatic vessels and the internal cavities of the heart. They display a strongly flattened, polygonal form and mostly rest on a basal membrane. They adhere to each other by desmosomes and tight-junctions. With a total cell number of about one trillion ( $10^{12}$ ), the endothelium is one of the biggest organs of the body and plays a key role in many physiological and patho-physiological processes (e.g. cell-based immune response, wound healing, inflammation, allergy, cardiovascular diseases, tumour growth). A huge number of soluble factors circulating in the blood or released by neighbouring cells control proliferation or apoptosis of endothelial cells and the invasion and migration of leucocytes to the endothelium, thereby regulating the maintenance, degeneration, or regeneration of blood vessels.

### Composition and application

Endopan 300 SL ready-to-use is a complete medium specially developed for serum-free in vitro culture of human endothelial cells and it contains all components necessary for optimal growth. It is designed for use in an incubator at  $37^{\circ}\text{C}$  with a 5% CO<sub>2</sub> atmosphere. Endopan 300 SL kit is provided with a serum substitute (Panexin SL-S) and supplements in separate sterile packing.

Endopan 300 SL has been designed for serum-free culture of endothelial cells directly after isolation. This exclusive medium is optimized for the maintenance and expansion of endothelial cells under serum-free culture conditions. HUVEC cultured in Endopan 300 SL exhibit a typical endothelial morphology and express endothelial specific markers such as CD31 or von Willebrand Factor and bind UEA-1 lectin. Additionally, HUVEC in Endopan 300 SL have been shown to maintain endothelial cell signal transduction pathways. When using complete Endopan 300 SL the growth rate of HUVEC is similar to that obtained for cells cultured in endothelial growth media containing bovine serum and supplements.

Although not extensively tested, it has been shown that Endopan 300 SL can also be used with endothelial cells of bovine, pig, rat, and rabbit origin.

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| Endopan 300 SL ready-to-use <sup>(3)</sup> | 500 ml | P04-00650 |
| Endopan 300 SL kit <sup>(3)</sup>          | 500 ml | P04-0065K |

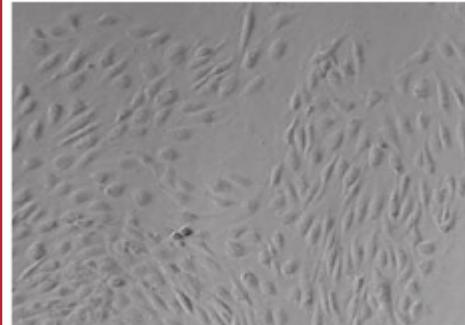
### Special advantages

Endothelial cell biology has been greatly advanced by studying cultured vascular endothelial cells in vitro. Traditionally, complete endothelial growth media contain animal serum. The advance of so-called low-serum media for endothelial cells has improved the quality of experimental data acquired in recent years. However, endothelial cells may synthesize substances which can not be detected due to their low quantity or masking effects from serum.

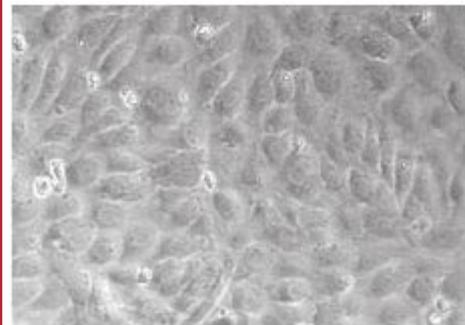
In the past, cellular signalling pathways in endothelial cells have not been decipherable experimentally because even low concentrations of serum present in traditional media induce an undefined and undesired stimulation of cell surface receptors or intracellular signalling which only may become evident under serum-free conditions. As endothelial cells move into the field of interest for vascular tissue engineering with potential therapeutic application, the presence of whole animal serum is undesirable for such applications.

### Instructions for use

Detailed instructions will be provided with the accompanying datasheet for Endopan 300 SL. In addition, instructions for use can also be found at [www.pan-biotech.com](http://www.pan-biotech.com).



Sub-confluent HUVEC in ENDOPAN 300 SL



Confluent HUVEC in ENDOPAN 300 SL

(1) usually on stock, (2) minimum order 10 l, (3) available on request