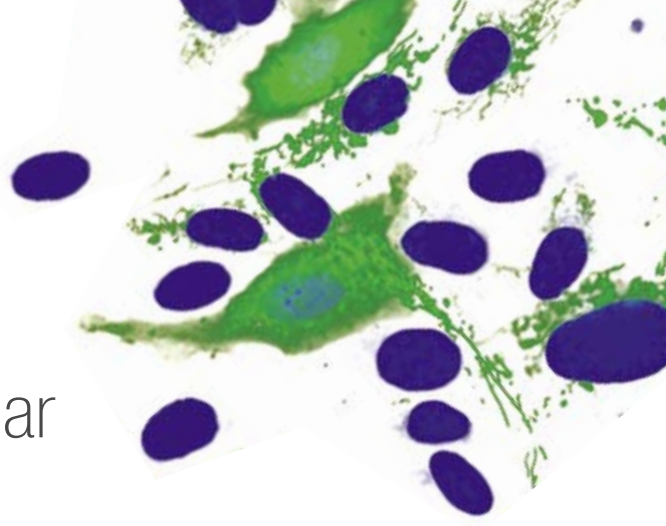

Key products for cardiovascular primary cell culture

→ Primary cells give you greater physiological relevance

→ Complete cell culture systems designed and optimized to work together

→ Backed by expert technical support

Invitrogen's Cascade Biologics® primary cells have been developed to work together for optimal performance. When your cell culture research demands relevance, reliability, and robustness, choose Cascade Biologics® primary cells to meet your most critical needs.

Table 1—Cascade Biologics® products for cardiovascular primary cell culture.*

Primary human cells (cryopreserved)	Aortic endothelial cells (C-006-5C)	Aortic smooth muscle cells (C-007-5C)	Dermal microvascular endothelial cells • Neonatal (C-010-5C) • Adult (C-011-5C)
	Pulmonary artery endothelial cells (C-008-5C)	Pulmonary artery smooth muscle cells (C-009-5C)	
	Umbilical vein endothelial cells • Single-donor (C-003-5C) • Pooled (C-015-5C, C-015-10C)	Coronary smooth muscle cells (C-017-5C)	
Basal media and growth supplements	Medium 200 (500 ml) • Standard (M-200-500) • Phenol red–free (M-200PRF-500)	Medium 231 (500 ml) (M-231-500)	Medium 131 with attachment factor (500 ml) (M-131-500)
	Low-serum growth supplement (LSGS) • Single-addition (S-003-10) • Kit (S-003-K)	Smooth muscle growth supplement (SMGS) (S-007-25)	Microvascular growth supplement (MVGS) (S-005-25)
		Smooth muscle differentiation supplement (SMDS) (S-008-5)	Attachment factor (100 ml) (S-006-100)
Subculture and other reagents			
Gentamicin/amphotericin 10-pack (R-015-10) Synth-a-Freeze® cryopreservation medium (R-005-50) Trypsin/EDTA (R-001-100) Trypsin neutralizer (R-002-100)			

* The cells listed in Table 1 are also available as proliferating cultures (catalog numbers for proliferating cultures take the form C-xxx-25P). All cells have tested negative for HIV-1, hepatitis B, hepatitis C, mycoplasmas, bacteria, yeast, and other fungi and are highly characterized (Table 2).

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Table 2—Characteristics of Cascade Biologics® cells for cardiovascular primary cell culture.

Cell type	α-actin	vWf	CD31	CD36	dil-Ac-LDL	Population doublings	Viability (upon thawing)
Large vessel endothelial cells (aortic, pulmonary artery, and umbilical vein cells)	–	+	+	N/A	+	>16	>70%
Smooth muscle cells	+	–	N/A	N/A	N/A		
Dermal microvascular cells	–	+	+	+	+		

Visit www.invitrogen.com/primarycells to see the entire range of Cascade Biologics® primary cells and optimized media from Invitrogen Cell Culture.

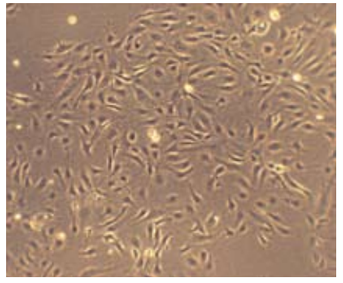

Figure 1—Phase-contrast image of human umbilical vein endothelial cells.

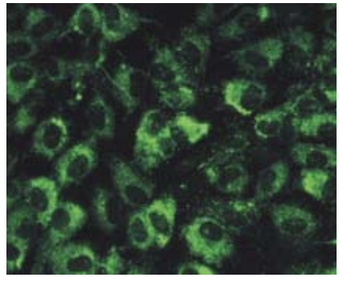

Figure 2—Human umbilical vein endothelial cells, anti-vWF immunofluorescence.

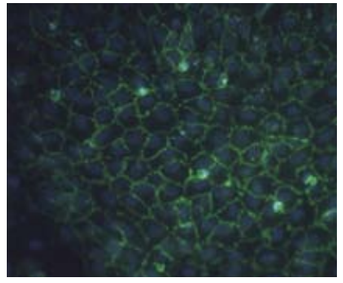

Figure 3—Microvascular endothelial cells were stained using an anti-CD31 primary antibody in conjunction with a fluorescein-labeled secondary antibody. Nuclei were counterstained with DAPI.

Selected references

Cardiovascular cell research references that cite the use of Cascade Biologics® products:

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(Human umbilical vein endothelial cells; medium 200; low-serum growth supplement)

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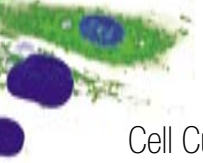

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