

Clinical trials of zotarolimus eluting stent

TrialResults-center www.trialresultscenter.org

1 acute myocardial infarction

Trial	Treatments	Patients	Trials design and methods
zotarolimus eluting stent vs paclitaxel eluting stent			
ZEST AMI (vs PES) , 2009 [NCT00422565] n=108/110 follow-up: 1 year (mean)	zotarolimus-eluting stent (Endeavor) versus paclitaxel-eluting stent (Taxus Libert)	Acute Myocardial Infarction Patients (STEMI)requiring primary angioplasty with symptom onset <= 12 hours	open Korea
zotarolimus eluting stent vs sirolimus eluting stent			
ZEST AMI (vs SES) , 2009 [NCT00422565] n=108/110 follow-up: 1 year (mean)	zotarolimus-eluting stent (Endeavor) versus sirolimus-eluting stents (Cypher)	Acute Myocardial Infarction Patients (STEMI)requiring primary angioplasty with symptom onset <= 12 hours	Parallel groups open Korea

└ More details and results :

- myocardial revascularization for acute myocardial infarction in all type of patients at <http://www.trialresultscenter.org/go-Q129>
- PCI for acute myocardial infarction in all type of patients at <http://www.trialresultscenter.org/go-Q246>

References

ZEST AMI (vs PES), 2009:

Lee CW, Park DW, Lee SH, Kim YH, Hong MK, Kim JJ, Park SW, Yun SC, Seong IW, Lee JH, Lee NH, Cho YH, Cheong SS, Lim DS, Yang JY, Lee SG, Kim KS, Yoon J, Jeong MH, Seung KB, Hong TJ, Park SJ Comparison of the efficacy and safety of zotarolimus-, sirolimus-, and paclitaxel-eluting stents in patients with ST-elevation myocardial infarction. Am J Cardiol 2009;104:1370-6 [19892052]

ZEST AMI (vs SES), 2009:

Lee CW, Park DW, Lee SH, Kim YH, Hong MK, Kim JJ, Park SW, Yun SC, Seong IW, Lee JH, Lee NH, Cho YH, Cheong SS, Lim DS, Yang JY, Lee SG, Kim KS, Yoon J, Jeong MH, Seung KB, Hong TJ, Park SJ Comparison of the efficacy and safety of zotarolimus-, sirolimus-, and paclitaxel-eluting stents in patients with ST-elevation myocardial infarction. Am J Cardiol 2009;104:1370-6 [19892052]

2 stable angina

Trial	Treatments	Patients	Trials design and methods
zotarolimus eluting stent vs bare-metal stent			
ENDEAVOR II , 2006 n=598/599 follow-up: 12 months	AVE Zotarolimus-Eluting Driver versus Driver	single de novo native coronary artery stenosis	Parallel groups double-blind worldwide
zotarolimus eluting stent vs everolimus eluting stent			
RESOLUTE All comers , 2010 [NCT00617084.] n=1140/1152 follow-up: 12 months (5y)	zotarolimus-eluting stent versus everolimus-eluting stent (Xience)	adult patients with chronic, stable coronary artery disease or acute coronary syndromes, including myocardial infarction with or without ST-segment elevation	Parallel groups open
zotarolimus eluting stent vs paclitaxel eluting stent			
ENDEAVOR IV , 2009 <i>unpublished</i> [NCT00217269] n=773/775 follow-up: mean 36 mo	zotarolimus-eluting stent (Endeavor) versus paclitaxel-eluting stent (Taxus)	single de novo lesions in native coronary arteries with a reference vessel diameter of 2.5-3.5 mm	Parallel groups open US
ZoMaxx phase 2 ongoing [NCT00140101] n=NA follow-up:	ZoMaxx drug-eluting stent versus TAXUS Express2	de Novo Coronary Artery Lesions	
zotarolimus eluting stent vs sirolimus eluting stent			
ENDEAVOR III , 2006 [NCT00217256] n=327/109 follow-up: 12 months (and 24 months)	ABT-578 coated Endeavor versus Cypher	single de novo lesions in native coronary arteries 2.5-3.5 mm in diameter	Parallel groups open US
PROTECT , 2012 [NCT00476957] n=4357/4352 follow-up:	Medtronic Endeavor Zotarolimus Eluting Coronary Stent System versus Cordis Cypher Sirolimus-eluting Coronary Stent	unselected patients (patients 18 years or older who were undergoing stenting for elective, unplanned, or emergency procedures in native coronary arteries)	Parallel groups open-label
ZEST (vs SES) , 2009 [NCT00418067] n=883/878 follow-up: 1 year	zotarolimus-eluting stents versus sirolimus-eluting stents	Patients with coronary artery disease	Parallel groups Open Korea
DIABEDES IV ongoing [NCT00552994] n=NA follow-up:	Cypher select plus versus Xience V	diabetic patients	

continued...

Trial	Treatments	Patients	Trials design and methods
PRISON III , 2007 <i>ongoing</i> [NCT00428454] n=NA follow-up: 8 months	Endeavor versus Cypher	patients with total coronary occlusions for at least 2 weeks with evidence of ischemia related to the occluded coronary artery	Parallel groups open

More details and results :

- myocardial revascularization for stable angina in all type of patient at <http://www.trialresultscenter.org/go-Q25>

References

ENDEAVOR II, 2006:

Gruberg L. ENDEAVOR II. A randomized comparison of the Endeavor ABT-578 drug-eluting stent with a bare metal stent for coronary revascularization, powerpo <http://www.medscape.com/viewarticle/501475>

Fajadet J, Wijns W, Laarman GJ, Kuck KH, Ormiston J, Mnzal T, Popma JJ, Fitzgerald PJ, Bonan R, Kuntz RE Randomized, double-blind, multicenter study of the Endeavor zotarolimus-eluting phosphorylcholine-encapsulated stent for treatment of native coronary artery lesions: clinical and angiographic results of the ENDEAVOR II trial. *Circulation* 2006 Aug 22;114:798-806 [16908773]

Fajadet J, Wijns W, Laarman GJ, Kuck KH, Ormiston J, Mnzal T, Popma JJ, Fitzgerald PJ, Bonan R, Kuntz RE Randomized, double-blind, multicenter study of the Endeavor zotarolimus-eluting phosphorylcholine-encapsulated stent for treatment of native coronary artery lesions. *Clinical and angiographic results of the ENDEAVOR II Trial*. *Minerva Cardioangiol* 2007 Feb;55:1-18 [17287679]

Sakurai R, Hongo Y, Yamasaki M, Honda Y, Bonneau HN, Yock PG, Cutlip D, Popma JJ, Zimetbaum P, Fajadet J, Kuntz RE, Wijns W, Fitzgerald PJ Detailed intravascular ultrasound analysis of Zotarolimus-eluting phosphorylcholine-coated cobalt-chromium alloy stent in de novo coronary lesions (results from the ENDEAVOR II trial). *Am J Cardiol* 2007 Sep 1;100:818-23 [17719326]

Eisenstein EL, Wijns W, Fajadet J, Mauri L, Edwards R, Cowper PA, Kong DF, Anstrom KJ Long-Term Clinical and Economic Analysis of the Endeavor Drug-Eluting Stent Versus the Driver Bare-Metal Stent 4-Year Results From the ENDEAVOR II Trial (Randomized Controlled Trial to Evaluate the Safety and Efficacy of the Medtronic AVE ABT-578 Eluting Driver Coronary Stent in De Novo Native Coronary Artery Lesions). *JACC Cardiovasc Interv* 2009 Dec;2:1178-87 [20129543] [10.1016/j.jcin.2009.10.011](https://doi.org/10.1016/j.jcin.2009.10.011)

RESOLUTE All comers, 2010:

Serruys PW, Silber S, Garg S, van Geuns RJ, Richardt G, Buszman PE, Kelbk H, van Boven AJ, Hofma SH, Linke A, Klauss V, Wijns W, Macaya C, Garot P, Dimario C, Manoharan G, Kornowski R, Ischinger T, Bartorelli A, Ronden J, Bressers M, Gobbens P, Negoita M Comparison of Zotarolimus-Eluting and Everolimus-Eluting Coronary Stents. *N Engl J Med* 2010 Jun 16;: [20554978] [10.1056/NEJMoa1004130](https://doi.org/10.1056/NEJMoa1004130)

Silber S, Windecker S, Vranckx P, Serruys PW Unrestricted randomised use of two new generation drug-eluting coronary stents: 2-year patient-related versus stent-related outcomes from the RESOLUTE All Comers trial. *Lancet* 2011 Apr 1;: [21459430] [10.1016/S0140-6736\(11\)60395-4](https://doi.org/10.1016/S0140-6736(11)60395-4)

ENDEAVOR IV, 2009:

unpublished

Leon MB Endeavor Clinical Program Overview, FDA Advisory Panel, October 10th, 2007

Waseda K, Miyazawa A, Ako J, Hasegawa T, Tsujino I, Sakurai R, Yock PG, Honda Y, Kandzari DE, Leon MB, Fitzgerald PJ Intravascular ultrasound results from the ENDEAVOR IV trial: randomized comparison between zotarolimus- and paclitaxel-eluting stents in patients with coronary artery disease. *JACC Cardiovasc Interv* 2009 Aug;2:779-84 [19695548]

Leon MB, Kandzari DE, Eisenstein EL, Anstrom KJ, Mauri L, Cutlip DE, Nikolsky E, O'Shaughnessy C, Overlie PA, Kirtane AJ, McLaurin BT, Solomon SL, Douglas JS Jr, Popma JJ Late Safety, Efficacy, and Cost-Effectiveness of a Zotarolimus-Eluting Stent Compared With a Paclitaxel-Eluting Stent in Patients With De Novo Coronary Lesions 2-Year Follow-Up From the ENDEAVOR IV Trial (Randomized, Controlled Trial of the Medtronic Endeavor Drug [ABT-578] Eluting Coronary Stent System Versus the Taxus Paclitaxel-Eluting Coronary Stent System in De Novo Native Coronary Artery Lesions). *JACC Cardiovasc Interv* 2009 Dec;2:1208-18 [20129547] [10.1016/j.jcin.2009.10.008](https://doi.org/10.1016/j.jcin.2009.10.008)

Leon MB, Nikolsky E, Cutlip DE, Mauri L, Liberman H, Wilson H, Patterson J, Moses J, Kandzari DE Improved late clinical safety with zotarolimus-eluting stents compared with paclitaxel-eluting stents in patients with de novo coronary lesions: 3-year follow-up from the ENDEAVOR IV (Randomized Comparison of Zotarolimus- and Paclitaxel-Eluting Stents in Patients With Coronary Artery Disease) trial. *JACC Cardiovasc Interv* 2010;3:1043-50 [20965463] [10.1016/j.jcin.2010.07.008](https://doi.org/10.1016/j.jcin.2010.07.008)

ZoMaxx phase 2, 0:

ongoing trial NCT00140101

ENDEAVOR III, 2006:

Miyazawa A, Ako J, Hongo Y, Hur SH, Tsujino I, Courtney BK, Hassan AH, Kandzari DE, Honda Y, Fitzgerald PJ, , Comparison of vascular response to zotarolimus-eluting stent versus sirolimus-eluting stent: intravascular ultrasound results from ENDEAVOR III. *Am Heart J* 2008;155:108-13. [18082499] [10.1016/j.ahj.2007.08.008](https://doi.org/10.1016/j.ahj.2007.08.008)

Kandzari DE, Leon MB, Popma JJ, Fitzgerald PJ, O'Shaughnessy C, Ball MW, Turco M, Applegate RJ, Gurbel PA, Midei MG, Badre SS, Mauri L, Thompson KP, LeNarz LA, Kuntz RE Comparison of zotarolimus-eluting and sirolimus-eluting stents in patients with native coronary artery disease: a randomized controlled trial. *J Am Coll Cardiol* 2006;48:2440-7 [17174180]

Eisenstein EL, Leon MB, Kandzari DE, Mauri L, Edwards R, Kong DF, Cowper PA, Anstrom KJ Long-Term Clinical and Economic Analysis of the Endeavor Zotarolimus-Eluting Stent Versus the Cypher Sirolimus-Eluting Stent 3-Year Results From the ENDEAVOR III Trial (Randomized Controlled Trial of the Medtronic Endeavor Drug [ABT-578] Eluting Coronary Stent System Versus the Cypher Sirolimus-Eluting Coronary Stent System in De Novo Native Coronary Artery Lesions). *JACC Cardiovasc Interv* 2009 Dec;2:1199-207 [20129546] [10.1016/j.jcin.2009.10.009](https://doi.org/10.1016/j.jcin.2009.10.009)

PROTECT, 2012:

ZEST (vs SES), 2009:

Park DW, Kim YH, Yun SC, Kang SJ, Lee SW, Lee CW, Park SW, Seong IW, Lee JH, Tahk SJ, Jeong MH, Jang Y, Cheong SS, Yang JY, Lim DS, Seung KB, Chae JK, Hur SH, Lee SG, Yoon J, Lee NH, Choi YJ, Kim HS, Kim KS, Kim HS, Hong TJ, Park HS, Park SJ Comparison of Zotarolimus-Eluting Stents With Sirolimus- and Paclitaxel-Eluting Stents for Coronary Revascularization The ZEST (Comparison of the Efficacy and Safety of Zotarolimus-Eluting Stent with Sirolimus-Eluting and Paclitaxel-Eluting Stent for Coronary Lesions) Randomized Trial. *J Am Coll Cardiol* 2010 Oct 5;56:1187-95 [20883925] [10.1016/j.jacc.2010.03.086](https://doi.org/10.1016/j.jacc.2010.03.086)

DIABEDES IV, 0:

ongoing trial NCT00552994

PRISON III, 2007:

ongoing trial NCT00428454

Suttorp MJ, Laarman GJ A randomized comparison of sirolimus-eluting stent implantation with zotarolimus-eluting stent implantation for the treatment of total coronary occlusions: rationale and design of the PRImary Stenting of Occluded Native coronary arteries III (PRISON III) study. *Am Heart J* 2007 Sep;154:432-5 [17719285]

3 coronary artery disease

Trial	Treatments	Patients	Trials design and methods
zotarolimus eluting stent vs bare-metal stent			
ENDEAVOR II , 2006 n=598/599 follow-up: 12 months	AVE Zotarolimus-Eluting Driver versus Driver	single de novo native coronary artery stenosis	Parallel groups double-blind worldwide
zotarolimus eluting stent vs everolimus eluting stent			
RESOLUTE All comers , 2010 [NCT00617084.] n=1140/1152 follow-up: 12 months (5y)	zotarolimus-eluting stent versus everolimus-eluting stent (Xience)	adult patients with chronic, stable coronary artery disease or acute coronary syndromes, including myocardial infarction with or without ST-segment elevation	Parallel groups open
TWENTE , 2012 [NCT01066650] n=NA follow-up: 1 year	zotarolimus-eluting stent versus everolimus-eluting stent	"real-world" patients	Parallel groups single (patient-blinded)
zotarolimus eluting stent vs paclitaxel eluting stent			
ENDEAVOR IV , 2009 <i>unpublished</i> [NCT00217269] n=773/775 follow-up: mean 36 mo	zotarolimus-eluting stent (Endeavor) versus paclitaxel-eluting stent (Taxus)	single de novo lesions in native coronary arteries with a reference vessel diameter of 2.5-3.5 mm	Parallel groups open US
ZEST (vs PES) , 2009 [NCT00418067] n=883/884 follow-up: 1 year	zotarolimus-eluting stents versus paclitaxel-eluting stents	Patients with coronary artery disease	NA
ZEST AMI (vs PES) , 2009 [NCT00422565] n=108/110 follow-up: 1 year (mean)	zotarolimus-eluting stent (Endeavor) versus paclitaxel-eluting stent (Taxus Libert)	Acute Myocardial Infarction Patients (STEMI) requiring primary angioplasty with symptom onset <= 12 hours	open Korea
ZoMaxx I , 2008 n=199/197 follow-up: 9 months	ZoMaxx zotarolimus-eluting stent versus Taxus paclitaxel-eluting stent	patients with single de novo coronary lesions and with lesion length 10-30 mm and reference vessel diameter 2.5-3.5 mm	Parallel groups open
ZoMaxx phase 2 <i>ongoing</i> [NCT00140101] n=NA follow-up:	ZoMaxx drug-eluting stent versus TAXUS Express2	de Novo Coronary Artery Lesions	

continued...

Trial	Treatments	Patients	Trials design and methods
zotarolimus eluting stent vs sirolimus eluting stent			
ENDEAVOR III , 2006 [NCT00217256] n=327/109 follow-up: 12 months (and 24 months)	ABT-578 coated Endeavor versus Cypher	single de novo lesions in native coronary arteries 2.5-3.5 mm in diameter	Parallel groups open US
PROTECT , 2012 [NCT00476957] n=4357/4352 follow-up:	Medtronic Endeavor Zotarolimus Eluting Coronary Stent System versus Cordis Cypher Sirolimus-eluting Coronary Stent	unselected patients (patients 18 years or older who were undergoing stenting for elective, unplanned, or emergency procedures in native coronary arteries)	Parallel groups open-label
SORT-OUT-3 , 2010 [NCT00660478] n=1162/1171 follow-up: 9 months (18 mo,3yrs)	Zotarolimus-eluting stents versus sirolimus-eluting stents (SES)	Patients With Coronary Artery Disease undergoing PCI for any indication	open
ZEST (vs SES) , 2009 [NCT00418067] n=883/878 follow-up: 1 year	zotarolimus-eluting stents versus sirolimus-eluting stents	Patients with coronary artery disease	Parallel groups Open Korea
ZEST AMI (vs SES) , 2009 [NCT00422565] n=108/110 follow-up: 1 year (mean)	zotarolimus-eluting stent (Endeavor) versus sirolimus-eluting stents (Cypher)	Acute Myocardial Infarction Patients (STEMI)requiring primary angioplasty with symptom onset <= 12 hours	Parallel groups open Korea
DIABEDES IV <i>ongoing</i> [NCT00552994] n=NA follow-up:	Cypher select plus versus Xience V	diabetic patients	
PRISON III , 2007 <i>ongoing</i> [NCT00428454] n=NA follow-up: 8 months	Endeavor versus Cypher	patients with total coronary occlusions for at least 2 weeks with evidence of ischemia related to the occluded coronary artery	Parallel groups open

More details and results :

- myocardial revascularization for coronary artery disease in all type of patient at <http://www.trialresultscenter.org/go-Q26>
- myocardial revascularization for coronary artery disease in diabetic patients at <http://www.trialresultscenter.org/go-Q30>
- Drug eluting stent for coronary artery disease in all type of patients at <http://www.trialresultscenter.org/go-Q206>
- Drug eluting stent for coronary artery disease in diabetic patients at <http://www.trialresultscenter.org/go-Q207>

- Drug eluting stent for coronary artery disease in acute myocardial infarction at <http://www.trialresultscenter.org/go-Q208>
- Drug eluting stent for coronary artery disease in unparticular patients at <http://www.trialresultscenter.org/go-Q215>
- Drug eluting stent for coronary artery disease in total occlusion at <http://www.trialresultscenter.org/go-Q216>

References

ENDEAVOR II, 2006:

Gruberg L. ENDEAVOR II. A randomized comparison of the Endeavor ABT-578 drug-eluting stent with a bare metal stent for coronary revascularization, powerpo <http://www.medscape.com/viewarticle/501475>

Fajadet J, Wijns W, Laarman GJ, Kuck KH, Ormiston J, Mnzl T, Popma JJ, Fitzgerald PJ, Bonan R, Kuntz RE Randomized, double-blind, multicenter study of the Endeavor zotarolimus-eluting phosphorylcholine-encapsulated stent for treatment of native coronary artery lesions: clinical and angiographic results of the ENDEAVOR II trial. *Circulation* 2006 Aug 22;114:798-806 [16908773]

Fajadet J, Wijns W, Laarman GJ, Kuck KH, Ormiston J, Mnzl T, Popma JJ, Fitzgerald PJ, Bonan R, Kuntz RE Randomized, double-blind, multicenter study of the Endeavor zotarolimus-eluting phosphorylcholine-encapsulated stent for treatment of native coronary artery lesions. *Clinical and angiographic results of the ENDEAVOR II Trial. Minerva Cardioangiolog* 2007 Feb;55:1-18 [17287679]

Sakurai R, Hongo Y, Yamasaki M, Honda Y, Bonneau HN, Yock PG, Cutlip D, Popma JJ, Zimetbaum P, Fajadet J, Kuntz RE, Wijns W, Fitzgerald PJ Detailed intravascular ultrasound analysis of Zotarolimus-eluting phosphorylcholine-coated cobalt-chromium alloy stent in de novo coronary lesions (results from the ENDEAVOR II trial). *Am J Cardiol* 2007 Sep 1;100:818-23 [17719326]

Eisenstein EL, Wijns W, Fajadet J, Mauri L, Edwards R, Cowper PA, Kong DF, Anstrom KJ Long-Term Clinical and Economic Analysis of the Endeavor Drug-Eluting Stent Versus the Driver Bare-Metal Stent 4-Year Results From the ENDEAVOR II Trial (Randomized Controlled Trial to Evaluate the Safety and Efficacy of the Medtronic AVE ABT-578 Eluting Driver Coronary Stent in De Novo Native Coronary Artery Lesions). *JACC Cardiovasc Interv* 2009 Dec;2:1178-87 [20129543] [10.1016/j.jcin.2009.10.011](https://doi.org/10.1016/j.jcin.2009.10.011)

RESOLUTE All comers, 2010:

Serruys PW, Silber S, Garg S, van Geuns RJ, Richardt G, Buszman PE, Kelbk H, van Boven AJ, Hofma SH, Linke A, Klauss V, Wijns W, Macaya C, Garot P, Dimario C, Manoharan G, Kornowski R, Ischinger T, Bartorelli A, Ronden J, Bressers M, Gobbens P, Negoita M Comparison of Zotarolimus-Eluting and Everolimus-Eluting Coronary Stents. *N Engl J Med* 2010 Jun 16;: [20554978] [10.1056/NEJMoa1004130](https://doi.org/10.1056/NEJMoa1004130)

Silber S, Windecker S, Vranckx P, Serruys PW Unrestricted randomised use of two new generation drug-eluting coronary stents: 2-year patient-related versus stent-related outcomes from the RESOLUTE All Comers trial. *Lancet* 2011 Apr 1;: [21459430] [10.1016/S0140-6736\(11\)60395-4](https://doi.org/10.1016/S0140-6736(11)60395-4)

TWENTE, 2012:

van Birgelen C, Basalus MW, Tandjung K, van Houwelingen KG, Stoel MG, Louwerenburg JH, Linssen GC, Sad SA, Kleijne MA, Sen H, Lwik MM, van der Palen J, Verhorst PM, de Man FH A Randomized Controlled Trial in Second-Generation Zotarolimus-Eluting Resolute Stents Versus Everolimus-Eluting Xience V Stents in Real-World Patients: The TWENTE Trial. *J Am Coll Cardiol* 2012 Feb 9;: [22341737] [10.1016/j.jacc.2012.01.008](https://doi.org/10.1016/j.jacc.2012.01.008)

van Birgelen C, van der Heijden LC, Basalus MW, Kok MM, Sen H, Louwerenburg HW, van Houwelingen KG, Stoel MG, de Man FH, Linssen GC, Tandjung K, Dogge Five-Year Outcome After Implantation of Zotarolimus- and Everolimus-Eluting Stents in Randomized Trial Participants and Nonenrolled Eligible Patients: A Secondary Analysis of a Randomized Clinical Trial. *JAMA Cardiol* 2017;: [28114618]

ENDEAVOR IV, 2009:

unpublished

Leon MB Endeavor Clinical Program Overview, FDA Advisory Panel, October 10th, 2007

Waseda K, Miyazawa A, Ako J, Hasegawa T, Tsujino I, Sakurai R, Yock PG, Honda Y, Kandzari DE, Leon MB, Fitzgerald PJ Intravascular ultrasound results from the ENDEAVOR IV trial: randomized comparison between zotarolimus- and paclitaxel-eluting stents in patients with coronary artery disease. *JACC Cardiovasc Interv* 2009 Aug;2:779-84 [[19695548](#)]

Leon MB, Kandzari DE, Eisenstein EL, Anstrom KJ, Mauri L, Cutlip DE, Nikolsky E, O'Shaughnessy C, Overlie PA, Kirtane AJ, McLaurin BT, Solomon SL, Douglas JS Jr, Popma JJ Late Safety, Efficacy, and Cost-Effectiveness of a Zotarolimus-Eluting Stent Compared With a Paclitaxel-Eluting Stent in Patients With De Novo Coronary Lesions 2-Year Follow-Up From the ENDEAVOR IV Trial (Randomized, Controlled Trial of the Medtronic Endeavor Drug [ABT-578] Eluting Coronary Stent System Versus the Taxus Paclitaxel-Eluting Coronary Stent System in De Novo Native Coronary Artery Lesions). *JACC Cardiovasc Interv* 2009 Dec;2:1208-18 [[20129547](#)] [10.1016/j.jcin.2009.10.008](#)

Leon MB, Nikolsky E, Cutlip DE, Mauri L, Liberman H, Wilson H, Patterson J, Moses J, Kandzari DE Improved late clinical safety with zotarolimus-eluting stents compared with paclitaxel-eluting stents in patients with de novo coronary lesions: 3-year follow-up from the ENDEAVOR IV (Randomized Comparison of Zotarolimus- and Paclitaxel-Eluting Stents in Patients With Coronary Artery Disease) trial. *JACC Cardiovasc Interv* 2010;3:1043-50 [[20965463](#)] [10.1016/j.jcin.2010.07.008](#)

ZEST (vs PES), 2009:

Seung-Jung Park Comparison of Sirolimus and Paclitaxel-Eluting Stents Versus Zotarolimus-Eluting Stents in Real World Practice: The ZEST Randomized Controlled Trial ACC.09/i2, Orlando, FL, March 2009

Park DW, Kim YH, Yun SC, Kang SJ, Lee SW, Lee CW, Park SW, Seong IW, Lee JH, Tahk SJ, Jeong MH, Jang Y, Cheong SS, Yang JY, Lim DS, Seung KB, Chae JK, Hur SH, Lee SG, Yoon J, Lee NH, Choi YJ, Kim HS, Kim KS, Kim HS, Hong TJ, Park HS, Park SJ Comparison of Zotarolimus-Eluting Stents With Sirolimus- and Paclitaxel-Eluting Stents for Coronary Revascularization The ZEST (Comparison of the Efficacy and Safety of Zotarolimus-Eluting Stent with Sirolimus-Eluting and Paclitaxel-Eluting Stent for Coronary Lesions) Randomized Trial. *J Am Coll Cardiol* 2010 Oct 5;56:1187-95 [[20883925](#)] [10.1016/j.jacc.2010.03.086](#)

ZEST AMI (vs PES), 2009:

Lee CW, Park DW, Lee SH, Kim YH, Hong MK, Kim JJ, Park SW, Yun SC, Seong IW, Lee JH, Lee NH, Cho YH, Cheong SS, Lim DS, Yang JY, Lee SG, Kim KS, Yoon J, Jeong MH, Seung KB, Hong TJ, Park SJ Comparison of the efficacy and safety of zotarolimus-, sirolimus-, and paclitaxel-eluting stents in patients with ST-elevation myocardial infarction. *Am J Cardiol* 2009;104:1370-6 [[19892052](#)]

ZoMaxx I, 2008:

Chevalier B, Di Mario C, Neumann FJ, Ribichini F, Urban P, Popma JJ, Fitzgerald PJ, Cutlip DE, Williams DO, Ormiston J, Grube E, Whitbourn R, Schwartz LB A randomized, controlled, multicenter trial to evaluate the safety and efficacy of zotarolimus- versus paclitaxel-eluting stents in de novo occlusive lesions in coronary arteries The ZoMaxx I trial. *JACC Cardiovasc Interv* 2008 Oct;1:524-32 [[19463354](#)] [10.1016/j.jcin.2008.08.010](#)

ZoMaxx phase 2, 0:

ongoing trial NCT00140101

ENDEAVOR III, 2006:

Miyazawa A, Ako J, Hongo Y, Hur SH, Tsujino I, Courtney BK, Hassan AH, Kandzari DE, Honda Y, Fitzgerald PJ, , Comparison of vascular response to zotarolimus-eluting stent versus sirolimus-eluting stent: intravascular ultrasound results from ENDEAVOR III. *Am Heart J* 2008;155:108-13. [[18082499](#)] [10.1016/j.ahj.2007.08.008](#)

Kandzari DE, Leon MB, Popma JJ, Fitzgerald PJ, O'Shaughnessy C, Ball MW, Turco M, Applegate RJ, Gurbel PA, Midei MG, Badre SS, Mauri L, Thompson KP, LeNarz LA, Kuntz RE Comparison of zotarolimus-eluting and sirolimus-eluting stents in patients with native coronary artery disease: a randomized controlled trial. *J Am Coll Cardiol* 2006;48:2440-7 [[17174180](#)]

Eisenstein EL, Leon MB, Kandzari DE, Mauri L, Edwards R, Kong DF, Cowper PA, Anstrom KJ Long-Term Clinical and Economic Analysis of the Endeavor Zotarolimus-Eluting Stent Versus the Cypher Sirolimus-Eluting Stent 3-Year Results From the ENDEAVOR III Trial (Randomized Controlled Trial of the Medtronic Endeavor Drug [ABT-578] Eluting Coronary Stent System Versus the Cypher Sirolimus-Eluting Coronary Stent System in De Novo Native Coronary Artery Lesions). *JACC Cardiovasc Interv* 2009 Dec;2:1199-207 [20129546] [10.1016/j.jcin.2009.10.009](https://doi.org/10.1016/j.jcin.2009.10.009)

PROTECT, 2012:

SORT-OUT-3, 2010:

Rasmussen K, Maeng M, Kaltoft A, Thayssen P, Kelbk H, Tilsted HH, Abildgaard U, Christiansen EH, Engstrm T, Krusell LR, Ravkilde J, Hansen PR, Hansen KN, Abildstrm SZ, Aare J, Jensen JS, Kristensen SD, Btker HE, Madsen M, Johnsen SP, Jensen LO, Sren Efficacy and safety of zotarolimus-eluting and sirolimus-eluting coronary stents in routine clinical care (SORT OUT III): a randomised controlled superiority trial. *Lancet* 2010 Mar 13;: [20231034] [10.1016/S0140-6736\(10\)60208-5](https://doi.org/10.1016/S0140-6736(10)60208-5)

Maeng M, Tilsted HH, Jensen LO, Kaltoft A, Kelbk H, Abildgaard U, Villadsen AB, Krusell LR, Ravkilde J, Hansen KN, Christiansen EH, Aare J, Jensen JS, Kristensen SD, Btker HE, Madsen M, Thayssen P, Srensen HT, Thuesen L, Lassen JF 3-Year Clinical Outcomes in the Randomized SORT OUT III Superiority Trial Comparing Zotarolimus- and Sirolimus-Eluting Coronary Stents. *JACC Cardiovasc Interv* 2012;5:812-8 [22917452]

ZEST (vs SES), 2009:

Park DW, Kim YH, Yun SC, Kang SJ, Lee SW, Lee CW, Park SW, Seong IW, Lee JH, Tahk SJ, Jeong MH, Jang Y, Cheong SS, Yang JY, Lim DS, Seung KB, Chae JK, Hur SH, Lee SG, Yoon J, Lee NH, Choi YJ, Kim HS, Kim KS, Kim HS, Hong TJ, Park HS, Park SJ Comparison of Zotarolimus-Eluting Stents With Sirolimus- and Paclitaxel-Eluting Stents for Coronary Revascularization The ZEST (Comparison of the Efficacy and Safety of Zotarolimus-Eluting Stent with Sirolimus-Eluting and PacliTaxel-Eluting Stent for Coronary Lesions) Randomized Trial. *J Am Coll Cardiol* 2010 Oct 5;56:1187-95 [20883925] [10.1016/j.jacc.2010.03.086](https://doi.org/10.1016/j.jacc.2010.03.086)

ZEST AMI (vs SES), 2009:

Lee CW, Park DW, Lee SH, Kim YH, Hong MK, Kim JJ, Park SW, Yun SC, Seong IW, Lee JH, Lee NH, Cho YH, Cheong SS, Lim DS, Yang JY, Lee SG, Kim KS, Yoon J, Jeong MH, Seung KB, Hong TJ, Park SJ Comparison of the efficacy and safety of zotarolimus-, sirolimus-, and paclitaxel-eluting stents in patients with ST-elevation myocardial infarction. *Am J Cardiol* 2009;104:1370-6 [19892052]

DIABEDES IV, 0:

ongoing trial NCT00552994

PRISON III, 2007:

ongoing trial NCT00428454

Suttorp MJ, Laarman GJ A randomized comparison of sirolimus-eluting stent implantation with zotarolimus-eluting stent implantation for the treatment of total coronary occlusions: rationale and design of the PRImary Stenting of Occluded Native coronary arteries III (PRISON III) study. *Am Heart J* 2007 Sep;154:432-5 [17719285]

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