**Supplemental Table 1. Current and upcoming DCB platforms, respective excipients, and drug uptake in arterial tissues64**

| **COMPANY** | **PRODUCT** | **DRUG**  **(DOSE (µg/mm2)** | **EXCIPIENT** | **ARTERIAL TISSUE CONCENTATION** | **INDICATION** | **DEVELOPMENT** |
| --- | --- | --- | --- | --- | --- | --- |
| Aachen Resonance GmbH | Elutax SV | Paclitaxel (2) | Dextran Sulfate | 250 mM/L after 1 hour | CAD/PAD | CE (2013) |
| Acotec Scientific Co | Orchid, Tulip, Lotus | Paclitaxel (3) | Polymer-free, Magnesium Stearate | N.A | PAD | CE (2015) |
| Balton | mcPCB | Paclitaxel (3) | Micro-crystalline Coating | N.A | PAD | - |
| Bard PV | Lutonix | Paclitaxel (2) | Polysorbate/Sorbitol | 59 ng/mg after 1 hour | PAD | CE (2011)  FDA (2014) |
| Bayer Healthcare | Cotavance | Paclitaxel (3) | Iopromide | ~43 ng/mg after 1 hour | PAD | CE (2011) |
| B.Braun  Melsungen AG | SeQuent Please NEO | Paclitaxel (3) | Iopromide | 330 ng/mg after 1 hour | CAD | CE (2009) |
| SeQuent Please OTW | Resveratrol | N.A | PAD | CE |
| Biosensors International | BioPath 014 | Paclitaxel (3) | Shellac | ~145 mM/L after 45 minutes | PAD | CE |
| BioPath 035 | Paclitaxel (3) | ~140 mM/L after 45 minutes | PAD | CE |
| BioStream | Paclitaxel (3) | ~200 uM/L after 45 minutes | CAD | CE |
| Biotronik AG | Pantera Lux | Paclitaxel (3) | BTHC | 165 ng/mg after 30 minutes | CAD | CE (2010) |
| Passeo-18 Lux | N.A | PAD | CE (2014) |
| Blue Medical Devices | Protégé | Paclitaxel (3) | BTHC | N.A | CAD | CE (2010) |
| Protégé NC | CE (2012) |
| Boston Scientific | Ranger | Paclitaxel (2) | BTHC | 49.6 ng/mg after 4 hours | PAD | CE (2014) |
| Agent | ATBC | ~ 40ng/mg at 0 day | CAD | CE (2014) |
| Cardionovum | LEGFLOW RX/OTW | Paclitaxel (3) | Shelloic Acid | 200 ng/mg after 30mins | PAD | CE |
| RESTORE | 200 ng/mg after 30mins | CAD | CE |
| APERTO OTW | N.A | AVF | CE |
| Concept Medicals Inc. | MagicTouch | Sirolimus (1.27) | Phospholipid Based Excipient | 140.6 ng/mg after 1 day  0.525ng/mg after 33 days | CAD | CE (2016) |
| Cook Group, Inc | Advance 18 PTX | Paclitaxel (3) | N.A | N.A | PAD | CE (2011) |
| Eucatech AG | Support C | Paclitaxel (3) | BTHC | ~ 60ng/mg at 0 day | CAD | CE |
| Eurocor GmbH | Dior I | Paclitaxel (3) | No Excipient  (Nanoporous balloon surface) | ~4 uM/L after 1 hour | CAD | CE (2007) |
| Dior II | Shellac | 196 mM/L after 45 minutes | CAD | CE (2007) |
| Freeway | N.A | PAD | CE (2010) |
| Hexacath | ZONDA | Paclitaxel (2.5) | BTHC | N.A | CAD | - |
| iVascular | Luminor | Paclitaxel (3) | Organic Ester | 212 µg/g after 15-30 mins | PAD | CE |
| Essentia | CAD | CE |
| Med Alliance Group Inc | SELUTION | Sirolimus (1.0) | Cell Adherent Technology, CATTM | 262 µg/g after 1 hour  21ng/mg after 21 days | CAD/PAD | - |
| Medtronic-Invatec | IN.PACT Pacific | Paclitaxel (3.5) | Urea | 60 ng/mg after 1 hour | PAD | CE |
| IN.PACTAmphirion | N.A | CE |
| IN.PACTAdmiral | 48.7 ng/mg after 4 hours | CE (2009)  FDA (2014) |
| IN.PACT Falcon | Paclitaxel (3.0) | N.A | CAD | CE, FDA |
| Meril Life Sciences | Mozec DCB | Paclitaxel (3) / Sirolimus (N.A) | Nano-particles | N.A | CAD | - |
| Minvasys | Danubio | Paclitaxel (2.5) | BTHC | N.A | PAD | CE |
| Nano Therapeutics | CUREX | Paclitaxel (2.3) | N.A | N.A | CAD | - |
| Orchestra BioMed | Virtue DCB | Sirolimus in nanoparticles (3mg) | No Excipient  (Perforated Balloon Surface) | ~12 ng/mg after 26 days | CAD | - |
| QT Vascular Ltd | Chocolate Touch | Paclitaxel (3) | N.A | N.A | PAD | CE (2015) |
| Chocolate Heart | Paclitaxel (N.A) | N.A | N.A | CAD | CE (2016) |
| Spectranetics | AngioSculptX | Paclitaxel (3) | Nordihydroguaiaretic acid | N.A | CAD | CE |
| Stellarex | Paclitaxel (2) | Polyethylene glycol | 58 ng/mg after 1 hour | PAD | CE (2014) |
| SurModics | SurVeil | Paclitaxel (2) | N.A | N.A | PAD | - |
| Terumo | Kanshas | Paclitaxel | Micro-crystal coating (Unicoat) | N.A | PAD | CE (2018) |
| University (Charit**é**) | Paccocath | Paclitaxel | Iopromide | ~15 ng/mg after 1 hour | CAD/PAD | Not Pursued |

ATHC: Acetyltri-n-hexyl citrate; AVF: Arteriovenous fistula; BTHC: Butyryl-n-trihexyl-citrate; CAD: Coronary artery disease; CE: Conformité Européenne; DCB: Drug-coated balloon; FDA: US Food and Drug Administration; PAD: Peripheral artery disease

**Supplementary Table 2. Summary of clinical trials and registry studies for DCB in CAD applications.**

| **TRIAL/STUDY** | **DEVICE** | **CONTROL** | **# OF PATIENTS** | **INDICATION** | **CLINICAL OUTCOMES: Device vs Con** |
| --- | --- | --- | --- | --- | --- |
| SEDUCE  NCT01065532 | SeQuent.Please | Xience DES | 50 | ISR | **9 months LLL (mm)**: 0.28 vs 0.07  **9 months %DS (%):** 26.4 vs 11.4 |
| PEPCAD China ISR  NCT01622075 | SeQuent Please | Taxus Liberté DES | 220 | ISR | **9 months LLL (mm):** 0.46 vs 0.55  **9 months DS (%):** 29.0 vs 30.8  **12 months TLR (%):** 16.5 vs 16.0 |
| PEPCAD II  NCT00393315 | SeQuent.Please | Taxus Liberté DES | 131 | ISR | **36 months TLR (%)**: 6.2 vs 15.4  **36 months MACE (%)**: 9.1 vs 18.5 |
| PEPCAD DES  NCT00998439 | SeQuent.Please | PTA | 110 | ISR | **36 months TLR (%)**: 19.4 vs 36.8  **36 months MACE (%)**: 20.8 vs 52.6 |
| ISAR-DESIRE 3  NCT00987324 | SeQuent.Please | DES vs PTA | 402 | ISR | **36 months TLR (%):** 33.3 vs. 24.2 vs. 50.8 |
| PEPPER  NCT00961181 | Pantera Lux | N.A | 81 | ISR | **6 months LLL (mm)**:  BMS-ISR: -0.05, DES-ISR: 0.19  **6 months MACE (%)**: 6.5 |
| Valentines II | Dior II | NA | 103 | ISR | **8 months TLR (%)**: 2.9  **8 months MACE (%)**: 8.7 |
| RIB IV  NCT01239940 | SeQuent.Please | Xience DES | 309 | ISR | **36 month TLR (%):** 14.0 vs 7.0  **36 months MACE (%)**: 7.9 vs 7.3 |
| ISAR-DESIRE 4  NCT01632371 | Scoring Balloon + Pantera Lux | PTA + Pantera Lux | 252 | ISR | **12 months TLR (%)**: 16.8 vs 22.6 |
| AGENT ISR  NCT02151812 | Agent DCB | SeQuent.Please | 122 | ISR | **6 months LLL (mm)**: 0.397 vs 0.393 |
| BIOLUX  NCT01651390 | Pantera Lux | DES | 229 | ISR | **6 months LLL (mm)**: -0.01 vs 0.10 |
| RESTORE  NCT01967199 | SeQuent Please | Xience DES | 172 | ISR | **9 months LLL (mm):** 0.15 vs 0.19  **9 months in-segment MLD (mm):** 1.8 vs 2.9  **9 months in-stent MLD (mm):** 1.9 vs 2.29 |
| RIBS V  NCT01239953 | SeQuent.Please | Xience DES | 189 | ISR | **9 months LLL (mm)**: 0.14 vs 0.04  **9 months TLR (%)**: 8 vs 2 |
| TIS Study  NCT01735825 | SeQuent.Please | Promus DES | 136 | ISR | **12 months LLL (mm)**: 0.02 vs 0.19  **12 months MACE (%)**: 10.3 vs 19.1 |
| DARE Trial  NCT01127958 | SeQuent.Please | Xience DES | 278 | ISR | **6 months LLL (mm)**: 0.17 vs 0.45 |
| SABRE Trial | Virtue SEB | N.A | 50 | ISR | **12 months TLR (%)**: 12.2 (ITT) vs 2.8 (PP)  **12 months MACE (%)**: 14.3 (ITT) vs 2.8 (PP) |
| RESTORE ISR  NCT02944890 | RESTORE® | SeQuent.Please | 240 | ISR | **9 months LLL (mm)**: 0.38 vs 0.35  **12 months TLF (%)**: 13.3 vs 12.6 |
| SEQUENT Worldwide Registry | DNL: SeQuent Please  ISR: SeQuent Please in Coroflex BMS ISR | DNL: SeQuent Please + Coroflex BMS  ISR: SeQuent Please in DES ISR | 2,095 | DNL (27%) and ISR (73%) | **DNL:**  **9 months TLR (%):** 3.8 vs 9.6  **9 months MACE (%):** 5.3 vs 11.6  **ISR:**  **9 months TLR (%):** 1.0 vs 2.4  **9 months MACE (%):** 2.6 vs 2.4 |
| FALCON Registry | In.Pact Falcon | N.A | 753 | DNL and ISR | **12 months TLR (%)**: DNL: 4.9, ISR: 7.3  **12 months MACE (%)**: DNL: 7.9, ISR: 12.1 |
| DELUX Registry  NCT01081366 | Pantera Lux | N.A | 1,064 | DNL and ISR | **12 months MACE (%)**:  BMS-ISR: 11.6, DES-ISR: 20.6, DNL: 9.4 |
| EASTBOURNE NCT03085823 | MagicTouch | N.A | 117 | DNL and ISR | **12 months TLR (%)**: 2.56  **12 months MACE (%):** 4.27 |
| Nanolute Registry | MagicTouch | N.A | 337 | DNL (SVD) and ISR | **12 months TLR (%)**: SVD: 2.63, ISR: 5.33  **12 months MACE (%)**: SVD: 3.68, ISR: 5.92 |
| DEBIUT  NCT00857441 | Dior I (MB+SB) and  BMS (MB) | BMS (MB) or  DES (MB) | 117 | DNL (Bifurcation) | **18 months TLR (%)**: 20 vs 27 vs 15 |
| PICCOLETTO  2009-012268-15 | Dior I | Taxus Liberté DES | 57 | DNL | **12 months TLR (%)**: 32.1 vs 10.3  **12 months MACE (%)**: 35.7 vs 13.8 |
| PEDCAD III | SeQuent.Please + Coroflex BMS | Cypher DES | 637 | DNL | **9 months LLL (mm)**: 0.36 vs 0.85 vs 0.25 |
| PEPCAD IV  NCT00462631 | SeQuent.Please + Coroflex Blue BMS | Taxus Liberté DES | 84 | DNL | **9 months LLL (mm)**: 0.37 vs 0.35  **9 months TLR (%)**: 8.9 vs 10.3  **9 months MACE (%)**: 13.3 vs 15.4 |
| PEPCAD V  NCT00540813 | SeQuent.Please (MB+ SB) and BMS (MB) | N.A | 28 | DNL (Bifurcation) | **9 months LLL (mm)**: 0.38 (MB), 0.21 (SB)  **9 months TLR (%)**: 3.8  **9 months MACE (%)**: 0 |
| INDICOR  NCT00747357 | SeQuent.Please + Coroflex Blue BMS | Coroflex Blue BMS + SeQuent.Please | 97 | DNL | **6 months LLL (mm)**: 0.50 vs 0.49  **6 months TLR (%)**: 4.1 vs 2.1  **6 months MACE (%)**: 10.2 vs 4.2 |
| BELLO  NCT01086579 | In.Pact Falcon | Taxus DES | 182 | DNL | **24 months TLR (%)**: 6.8 vs 12.1  **24 months MACE (%)**: 14.8 vs 25.3 |
| PERfECT  NCT00732953 | EPS Stent + SeQuent.Please | EPC Stent | 120 | DNL | **6 months LLL (mm)**: 0.34 vs 0.88  **6 months TLR (%)**: 4.8 vs 15.5  **6 months MACE (%)**: 4.8 vs 17.2 |
| BABILON  NCT01278186 | SeQuent.Please (MB+SB) and Coroflex Blue BMS (MB) | Xience V DES (MB) | 108 | DNL | **9 months TLR (%)**: 15.4 vs 3.6  **9 months MACE (%)**: 17.3 vs 7.1 |
| Chocolate Heart FIH Study | Chocolate Heart | N.A | 19 | DNL | **6 months LLL (mm)**: 0.01  **6 months TLR (%)**: 5.0 |
| DEBUT  NCT01781546 | SeQuent Please | Integrity/Omega BMS | 220 | DNL (HBR) | **12 months TLR (%):** 2 vs 6  **12 months MACE (%):** 4 vs 14 |
| PEPCAD I  NCT00404144 | SeQuent.Please | SeQuent.Please + Coroflex BMS | 120 | DNL (SVD) | **36 months MACE (%)**: 6.1 vs 37.5 |
| BASKET-SMALL 2 NCT01574534 | SeQuent.Please | Taxus, Xience DES | 758 | DNL (SVD) | **12 months MACE (%):** 7.5 vs 7.3 |
| RESTORE SVD  NCT02946307 | RESTORE® | Resolute DES | 230 | DNL (SVD) | **9 months LLL (mm)**: 0.25 vs 0.27  **9 months DS (%):** 29.6 vs 24.1  **12 months TLF (%):** 4.4 vs 2.6 |
| RAMSES  NCT01722799 | In.Pact Falcon | Resolute DES | 94 | DNL (SVD) | **12 months MACE (%):** 4.4 vs 11.1 |
| FASICO Registry | MagicTouch | N.A | 32 | Complex PCI | **6 months LLL (mm)**: 0.09 |
| PEPCAD-CTO  NCT00670436 | SeQuent.Please + Coroflex BMS | Taxus Liberté DES | 50 | CTO | **6 months TLR (%)**: 14.6 vs 14.6  **6 months MACE (%)**: 14.6 vs 18.8 |
| PEPCAD NSTEMI  NCT01489449 | SeQuent.Please | Coroflex BMS, Xience DES | 210 | NSTEMI | **9 months TLF (%)**: 3.8 vs 6.6  **9 months MACE (%)**: 6.7 vs 14.2 |
| DEB-AMI  NCT00856765 | Dior II + Genius Magic BMS | Genius Magic BMS, Taxus Liberté DES | 149 | STEMI | **6 months LLL (mm)**: 0.64 vs 0.74 vs 0.21  **6 months TLR (%)**: 20.0 vs 17.6 vs 2.0  **6 months MACE (%)**: 20.0 vs 23.5 vs 4.0 |
| REVELATION  NCT02219802 | Pantera Lux | Osiro, Xience DES | 120 | STEMI | **9 months LLL (mm):** 0.05 vs 0.00  **9 months FFR:** 0.92 vs 0.91 |
| PEBSI  NCT01839890 | Pantera Lux + PRO-Kinetic Energy BMS | PRO-Kinetic Energy BMS | 223 | STEMI | **9 months LLL (mm):** 0.31 vs 0.8  **12 months MACE (%):** 3.6 vs 12.5 |

The numbers in the clinical outcomes represents the device’s data followed by the control’s data.

BA: Balloon Angioplasty; BMS: Bare metal stent; BTK: Below the knee; DES: Drug-eluting stent; DNL: De novo lesion; FP: Femoropopliteal; HBR: High bleeding risk; ISR: In-stent restenosis; ISBR: In-stent binary restenosis; LLL: Late lumen loss; MACE: Major adverse cardiac events; MB: Main branch; PTA: Percutaneous transluminal angioplasty; SB: Side branch; SVD: Small vessel disease; TLF: Target lesion failure; TLR: Target lesion revascularisation; MLD: Minimal Lumen Diameter; In-segment Percentage Diameter Stenosis: %DS; FFR: Fractional flow reserve