

1. **Device Name:**
The device brand name is Mozec™ SEB , the generic name is Sirolimus Eluting Rx (Rapid Exchange) PTCA Balloon Dilatation Catheter.
2. **Device Description:**
Mozec™ SEB Sirolimus Eluting Rx PTCA Balloon Dilatation Catheter is designed for delivering drug while dilating stenotic atherosclerotic lesions in coronary arteries and post-delivery expansion of balloon expandable stents.
Mozec™ SEB Sirolimus Eluting Rx PTCA Balloon Dilatation Catheter (Mozec SEB) consists of a drug (Sirolimus) coated balloon (dilatation element) near the distal tip, a dual lumen distal shaft and single lumen proximal shaft. The balloon has two radiopaque marker bands, one at each end of the balloon, which represents the approximate balloon working length at nominal pressure for correctly positioning the balloon under fluoroscopy.
The catheter has a soft tip. The two co-axial lumens permit movement of guide wire and balloon inflation. The two markers on the proximal shaft approximately indicate the exit of the balloon catheter tip from the guiding catheter (Brachial 90 cm, Femoral 100 cm). The proximal portion of the shaft has PTFE coating.
The balloon coating consists of a blend of biocompatible Solid-Lipid Nano (SLN) formulation of anti-proliferative drug (Sirolimus) and excipients.
The compliance chart on the inner and outer label indicates how the balloon diameter increases with increasing pressure. The compliance data is based on in-vitro testing of balloons at 37°C temperature.

2.1. **Device Components Description:**

Table - 1 Device Components Description

Parameters		Mozec™ SEB Sirolimus Eluting Rx PTCA Balloon Dilatation Catheter
Available Balloon Lengths (mm)	9, 12*, 14, 15*, 17, 20, 25, 30.	* For 2.00mm balloon diameter only.
Available Balloon Diameters (mm)	2.00, 2.25, 2.50, 2.75, 3.00, 3.50, 4.00, 4.50	
Delivery system usable length	142 cm	
Balloon	Drug coated semi compliant nylon balloon. Its length and location is indicated by double swaged radiopaque markers.	
Shaft Outer Diameters	Proximal 1.98 F (For all balloon diameters) Distal 2.40 F(For 2.00 mm diameters) Distal 2.70 F(For 2.25 to 4.50 mm diameters)	
Balloon Inflation Pressure	Nominal Pressure: 7 atm Rated Burst Pressure: 16 atm for balloon diameters 2.0 to 4.0 mm. 14 atm for balloon diameter 4.5 mm	
Minimum Guide Catheter Inner Diameter	Min Guide Catheter I.D 0.056" / 1.42 mm Guide Catheter Compatibility 5F	
Max. Guide Wire Outer Diameter	0.014" / 0.36 mm diameter	
Product code format MOZSxxxxy	MOZS = Mozec™ SEB - Sirolimus Eluting Rx PTCA Balloon Dilatation Catheter xxx = nominal balloon diameter (mm) yy = nominal balloon length (mm) For example MOZS30017 xxx = 300 = Diameter 3.00 mm yy = 17 = Length 17 mm	
Coating	Sirolimus loaded SLN Coating	

2.1.1 Compliance Chart:

Table - 2: Mozec™ SEB Compliance Chart

Pressure (atm)	2.00 mm	2.25 mm	2.50 mm	2.75 mm	3.00 mm	3.50 mm	4.00 mm	4.50 mm
4	1.90	2.11	2.37	2.59	2.85	3.36	3.88	4.30
5	1.95	2.15	2.43	2.64	2.91	3.41	3.94	4.35
6	1.98	2.19	2.46	2.69	2.96	3.46	3.98	4.42
7	2.00	2.25	2.50	2.75	3.00	3.50	4.00	4.50
8	2.04	2.29	2.53	2.77	3.03	3.53	4.05	4.54
10	2.08	2.35	2.58	2.82	3.08	3.59	4.11	4.60
12	2.12	2.39	2.63	2.87	3.12	3.63	4.15	4.66
14	2.16	2.41	2.67	2.91	3.16	3.67	4.20	4.72
16	2.20	2.43	2.71	2.95	3.20	3.72	4.25	

Nominal Dilatation Pressure: 7 atm for all diameters.

Grey Background: Nominal pressure, **Black Background:** RBP (Rated Burst Pressure)

2.2. **Drug Component Description:**

2.2.1 **Coating:**

The coating on the balloon consists of a blend of the drug Sirolimus (the active component) formulated in solid lipid nano formulation and excipients (the inactive component).

2.2.2 **Sirolimus:**

Sirolimus is also known as Rapamycin.

Sirolimus is a macrocyclic lactone produced by *Streptomyces hygroscopicus*.

The chemical name of Sirolimus (also known as rapamycin) is

(3S,6R,7E,9R,10R,12R,14S,15E,17E,19E,21S,23S,26R,27R,34aS)-

9,10,12,13,14,21,22,23,24,25,26,27,32,33,34,34a-Hexadecahydro-9,27-dihydroxy-3-[(1R)-2-[(1S,3R,4R)-4-hydroxy-3-ethoxycyclohexyl]-1-methylethyl]-10,21-dimethoxy-6,8,12,14,20,26-hexamethyl-23,27-epoxy-3H-pyrido[2,1-c][1,4]oxaazacyclohentriacontine1,5,11,28,29 (4H,6H,31H)-pentone. Its molecular formula is C₅₁H₇₉NO₁₃ and is molecular weight is 914.2.

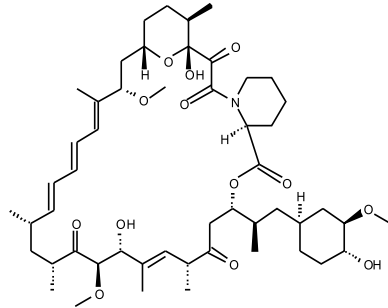


Fig.1 Sirolimus Drug Chemical Structure

Sirolimus is a white to off-white powder and is insoluble in water, but freely soluble in benzyl alcohol, chloroform, acetone, and acetonitrile and has a melting temperature of approximately 183-185°C. Sirolimus belongs to a class of therapeutic agents known as macrocyclic lactones or macrolides. It's a cytostatic drug and an immunosuppressant. It inhibits cell motility by suppression of m-TOR mediated 56K1 and 4E-BP1 pathways. It inhibits T-lymphocyte activation and proliferation occurring in response to antigen and cytokine. It also inhibits antibody production. It demonstrates antiproliferative activities.

The drug content on Mozec™ SEB - Sirolimus Eluting Rx PTCA Balloon Dilatation Catheter is 3.0 µg/mm² of balloon outer surface area.

2.2.3 **Excipients:**

The inactive ingredient of the coating consists of :

1. Hydrogenated Castor Oil which acts as a Drug Reservoir.
2. Polyvinylpyrrolidone (PVP).
3. Additives.

3. **How Supplied:**

Sterile: This device is sterilized with Ethylene oxide (ETO) and is non-pyrogenic. It is intended for single patient use during single procedure only. Do not resterilize. Do not use if the package is opened or damaged.

Contents: One (1) Mozec™ SEB Sirolimus Eluting Rx PTCA Balloon Dilatation Catheter housed in a protective circular hoop dispenser,

One (1) Instructions for use, One (1) Flushing needle,

One (1) Looper clip, One (1) Compliance chart.

Storage: Store between 15-25°C (59-77°F) temperature in a dry, dark, cool place. Protect from light.

The figure below shows the placement of the contents in the package.

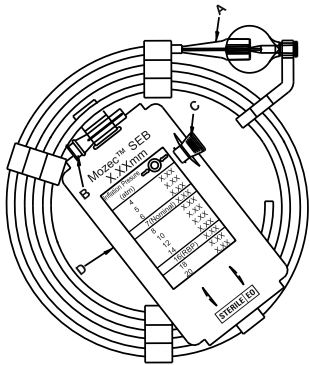
Note:

A - Mozec™ SEB - in Hoop Dispenser

B - Flushing Needle

C - Looper Clip

D - Compliance chart



4. **Indications:**

Mozec™ SEB Sirolimus Eluting Rx PTCA Balloon Dilatation Catheter is indicated for the coronary native arteries. It is indicated for the dilatation of stenotic portions also including total occlusions, AMI patients and it can be used also for the post dilatation of balloon expandable stents.

5. **Contraindications:**

The Mozec™ SEB is contraindicated in the following patient types:

- Patients with hypersensitivity or allergies to aspirin, heparin, clopidogrel, ticlopidine, bivalidurin, prasugrel, ticagrelor and drug such as Sirolimus (Rapamycin) or similar drugs or any analogue or derivative, hydrogenated castor oil, PVP or any contrast media.
- Patients in whom anti-platelet and/or anti coagulant therapy are contraindicated.
- Patients judged to have a lesion that prevents complete inflation of an angioplasty balloon.
- Transplant patients.
- Patients with calcified lesion requiring other type of treatment such as Rotational Atherectomy.
- Unprotected left main coronary artery lesions
- Coronary artery spasm in the absence of a significant stenosis.
- Patients whose diseased segment cannot be pre-dilated or prepared before drug coated balloon treatment.

6. **Warnings:**

- For single use only. Do not reuse, reprocess or resterilize. Reuse, reprocessing or re-sterilization may compromise the structural integrity of the device and/or lead to device failure which, in turn, may result in patient injury, illness or death.
- Reuse, reprocessing or re-sterilization may also create a risk of contamination of the device and/ or cause patient infection or cross-infection, including, but not limited to the transmission of infectious disease(s) from one patient to another. Contamination of the device may lead to injury, illness or death of the patient.

- Mozec™ SEB should only be used at hospitals where emergency coronary artery bypass graft surgery can be quickly performed in the event of a potentially injurious or life-threatening complication.

- Use of Mozec™SEB in patients who are not acceptable candidates for coronary artery bypass graft surgery requires careful consideration, including potential haemodynamic support during the procedure, as treatment of this patient population carries special risk.

- Use the product before the "Use By" date specified on the product label.

- Guiding catheters used must have lumen sizes that are suitable to accommodate the introduction of Mozec™ SEB.

- Do not use if the inner package is opened or damaged. Carefully remove the Mozec™ SEB from the pouch to prevent damage and premature removal of the balloon cover.

- Use only the 50% solution of contrast medium in sterile heparinised saline. Do not use air/any other gaseous media/oil based inflation media/alcohol/organic solvents to inflate the catheter as this may cause uneven expansion/catheter leakage/loss of lubrication.

- Do not expose the device to water or organic solvents e.g. alcohol.

- When the catheter is exposed to the vascular system, it should be manipulated while under high-quality fluoroscopic observation. Do not advance or retract catheter unless the balloon is fully deflated under vacuum. If resistance is felt during manipulation, determine the cause of the resistance before proceeding.

- Balloon pressure should not exceed the Rated Burst Pressure (see Compliance Chart). Use of a pressure monitoring device is recommended to prevent over pressurization.

- To reduce the potential for vessel damage, the inflated diameter of the balloon should approximate the diameter of the vessel just proximal and distal to the stenosis.

- Judicious patient selection is necessary during use of this device since it carries the associated risks of subacute thrombosis, vascular complications and/or bleeding events.

7. **Precautions:**

7.1. **General Precautions:**

- Prior to use, examine the Mozec™ SEB to verify functionality. Ensure that its size is suitable for the specific procedure for which it is to be used and that it is free of any kind of kinks or physical damage.

- Only the physicians trained in the performance of PTCA should use the catheter system.

- Appropriate anticoagulant/antiplatelet therapy should be used during the procedure.

- After the procedure, anticoagulant therapy should be continued as recommended by the physician.

- Prior to re-insertion or withdrawal of the catheter, wipe the guide wire with saline-soaked gauze to remove blood or other residues.

- Never inflate Mozec™SEB prior to reaching the target lesion.

- Mozec™ SEB should be advanced to the target site and inflated as fast as possible to appropriate pressure to ensure full wall apposition.

7.2. **Balloon Handling Precautions:**

- Drug coated balloons are used to deliver drug in arterial segment with short inflation times. It is required to pre-dilate and prepare the lesion with a non-drug eluting balloon before the product usage.
- Special care must be taken while handling the device, especially during removal from the packaging, to prevent damage or disruption of the coating on balloon.B
- alloon manipulation, trying to refold may damage the coating, cause contamination or fragmentation of coating on the balloon.

7.2.1 **Balloon Removal Precautions:**

- Should any unusual resistant be felt at any time during either lesion access or removal of balloon catheter, the entire system must be removed as a single unit.

- While removing the system as a single unit, advance the guide wire into the coronary anatomy as far as distally possible. Tighten the rotating hemostasis valve to secure the Mozec™ SEB balloon with the guiding catheter; then remove the balloon catheter system and guide catheter as a single unit.

7.2.2 **Drug Interaction:**

- Consideration should be given to the potential drug interaction while deciding treatment with Mozec™ SEB for a patient who is taking a drug that could interact with Sirolimus. The effect of drug interactions on safety and effectiveness of Mozec™ SEB has not been determined.

- While no specific clinical data are available, drugs like Tacrolimus that act through the same binding protein (FKBP) may interfere with the efficacy of Sirolimus.

- Drug interaction studies have not been performed. Sirolimus is metabolized by CYP3A4. Strong inhibitors of CYP3A4 (e.g. ketoconazole) might cause increased Sirolimus exposure to levels associated with systemic effects, especially if treatment with multiple Mozec™ SEB is performed. Systemic exposure of Sirolimus should also be taken into consideration if the patient is treated concomitantly with systemic immunosuppressive therapy.

8. **Adverse Effects:**

Potential adverse events, which may be associated with the use of a catheter, include but are not limited to:

- Acute myocardial infarction.
- Allergic reactions to anti-coagulant and /or antithrombotic therapy/ contrast medium.
- Arrhythmia, including ventricular fibrillation (VF).
- Arteriovenous fistula.
- Coronary embolism.
- Coronary artery spasm.
- Coronary vessel dissection/injury/perforation/rupture.
- Death.
- Emergency or non-emergent Coronary Artery Bypass Graft Surgery.
- Hematoma.
- Hemorrhage, requiring transfusion.
- Hypotension / Hypertension.
- Infection and / or pain at the access site.
- Restenosis of treated segment.
- Thrombosis
- Total occlusion of coronary artery/bypass graft.
- Unstable angina pectoris.
- Stroke, air embolism and embolization or fragmentation of thrombotic or atherosclerotic material.
- Potential adverse events, not captured above, that may be related to Sirolimus following oral administration:
 - Abnormal liver function tests
 - Anemia
 - Arthralgias
 - Diarrhea
 - Hypercholesterolemia
 - Hypersensitivity, including anaphylactic/anaphylactoid type reactions
 - Hypertriglyceridemia
 - Hypokalemia
 - Infections
 - Interstitial lung disease
 - Leukopenia
 - Lymphoma and other malignancies
 - Thrombocytopenia
- There may be other potential adverse events that are unforeseen at this time.

