## Bar-Coded Test Tubes for Use with RxDx Dosing:

### ACT
- Bar-coded flip-top test tubes for needleless blood transfer.
- 95 test tubes per package.
- HRFTCA510 (black stopper): Diatomaceous earth (Celite) activated, non-evacuated glass test tubes. Requires 2.0 cc of fresh whole blood. Recommended ACT for monitoring heparin during cardiac surgery, vascular surgery, PTCA, cardiac catheterization and post procedure monitoring. 
- HRFTK-ACT (gold stopper): Kaolin activated, non-evacuated glass test tubes. Requires 2.0 cc of fresh whole blood. Recommended ACT for monitoring heparin in the presence of low to moderate dose aprotinin during bypass surgery.

### ACT Control Plasma
- For quality control of HRFTCA510 and HRFTK-ACT test tubes.
- CPL2: 10 Normal and 10 Abnormal plasma vials, 20 vials distilled water, 20 vials calcium chloride.
- CPL2-50: 30 Normal and 30 Abnormal plasma vials, 60 vials distilled water, 60 vials calcium chloride.

### HRT
- Heparin Response Test for bypass surgery and aggressive cardiac invasive procedures. 40 tubes per box.
- (mint green tops): P-HRT480P: Porcine heparin, Celite based.
- R-HRT480PK: Same as above, but kaolin based.
- HRT Whole Blood Control
- RQCHR: For quality control of HRT test tubes. 10 Level 1 whole blood vials with 10 diluent vials, 10 Level 2 whole blood vials with 10 diluent vials.

### PRT
- Protamine Response Test for determination of initial protamine dose at the end of CPB. 40 tubes per box.
- R-PRT200 (peach top): Celite based for use when low to moderate levels of heparin are present. Same as above, but kaolin based.
- R-PRT400 (red top): Celite based for use when moderate to high levels of heparin are present. Same as above, but kaolin based.

### PDA
- Protamine titration assay for verifying heparin neutralization and quantifying additional protamine sulfate dosages (if any). 40 tubes per box.
- (Orange tops): PDAO: Celite based.
- PDAO-K: Kaolin based.
- PRT/ PDA Whole Blood Control
- RQCPRT: For quality control of PRT and PDA test tubes. 10 Level 1 whole blood vials with 10 diluent vials, 10 Level 2 whole blood vials with 10 diluent vials.

### HiTT
- High Dose Thrombin Time test tube
- (Turquoise-top): A501: Requires 1.5 cc of fresh whole blood. Recommended as a specific assay for monitoring heparin and determining circulating heparin levels via factor IIa inhibition in the presence or absence of aprotinin during CPB. 20 tubes and 20 vials distilled water per package.
- HiTT Whole Blood Control
- RQCHiT: For quality control of HiTT test tubes. 10 Level 1 whole blood vials with 10 diluent vials, 10 Level 2 whole blood vials with 10 diluent vials.
Hemostasis Management in Cardiac Bypass (CPB) Surgery

**HRT (HEPARIN RESPONSE TEST)**
- Patients can vary twelve-fold in their sensitivity to, and metabolism of heparin.
- Empirical dosing does not reflect heparin-sensitive or heparin-resistant patient requirements.
- Use HRT to determine the patient-specific dose of heparin needed.
- Use Kaolin HRT for cases when aprotinin is used.

**INTRA-OPERATIVE EVALUATION**
- To insure adequate anticoagulation is maintained throughout the case.
- Maintain your target time with the standard Celite® ACT or Kaolin ACT.
- Kaolin ACT is recommended with low to moderate aprotinin use.
- HiTT (High Dose Thrombin Time) test reports both the heparin effect and the functional circulating heparin level. Can be used with or without aprotinin.

**Summary:**
- Better patient outcomes
- Reduces cost

**PRT (PROTAMINE RESPONSE TEST)**
- At end of CPB it is desirable to neutralize circulating heparin to minimize the potential for post-surgical bleeding.
- It is advantageous to administer the minimal effective dose of protamine because of potential complications associated with its use.
- The PRT can predict the individual dosage required to neutralize circulating heparin.
- Use kaolin PRT for cases when aprotinin is used.

**POST-OPERATIVE EVALUATION**
- Can help those patients at increased risk of bleeding after surgery.
- Provide a valuable tool in transfusion management by ensuring that appropriate blood products are selected.
- Identify residual heparin with PDAO (Protamine Dose Assay) or PDAOK or TT (Thrombin Time)/HNTT (Heparin-Neutralized Thrombin Time).
- PDAO quantifies additional protamine requirements (if any).
- Use PDAOK for cases when aprotinin is used.
- TT/HNTT identifies both residual heparin and dysfibrinogenemias.

**SUGGESTED READING**