

# VeriLinkRx

TPN, COMPOUNDING AND DRUG DIVERSION SYSTEM.

Close the broken link in your  
narcotics chain of custody program

**Validate Fentanyl with VeriLinkRx**

The image shows a laboratory setting with a woman and a man in white lab coats. The woman is in the foreground, looking at a computer monitor. The man is in the background, also looking at the monitor. In the foreground, there is a VeriLinkRx device, which is a white and black machine with a screen and a sample holder. The screen displays the VeriLinkRx software interface, which includes a header with the company logo and name, and a main area with a table of results.

VeriLinkRx	
Drug ID	Fentanyl
Concentration	50 ug/ml
Manufacturer	Hospira
Operator	Tom
CRN	Nancy
Patient	012345
UN 1	02/10/2016 14:17:56
Reference Average	1.3330
Measurement Result	1.3330
Difference between Measurement and Reference	0.0000
Result	PASS

OK

RUDOLPH  
RESEARCH  
ANALYTICAL

TECHNICAL BULLETIN 944

## Do you know what is in your syringe?

- Diversion is a problem, because 15% of healthcare professionals struggle with drug dependence at some point in their career contributing to the drug diversion problem.
- Testing narcotics returned to the hospital pharmacy with the **VeriLinkRx<sup>®</sup>** alerts staff to tampered or sub-therapeutic dosage levels.
- The **VeriLinkRx<sup>®</sup>** can be used to test Morphine, Hydromorphone, Fentanyl, and other narcotics e.g. hundreds of injectable solutions have been tested and added to the system library.
- Standard existing chain of custody control measures like biometric scanning, audit trails, passwords, and witness documentation are not sufficient to ensure that narcotics are returned to the hospital pharmacy untampered and undiluted.
- An analytical method, like Rudolph's **VeriLinkRx<sup>®</sup>**, is a reliable and cost effective solution to verify that the actual narcotic is wasted.
- Outsourced laboratory testing is too slow and expensive to test returned narcotics that are administered daily.

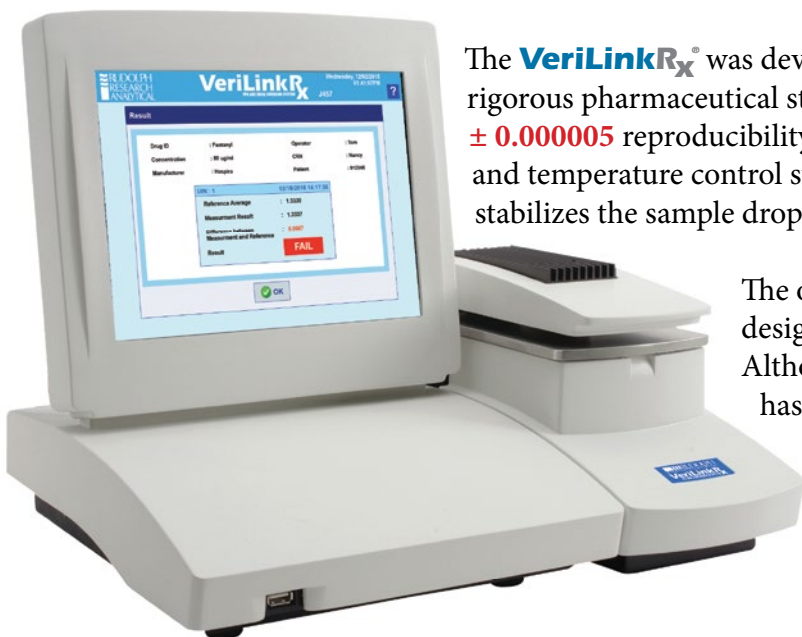
## The **VeriLinkRx<sup>®</sup>** is easily integrated into your hospital pharmacy workflow.

- Testing returned Narcotics with **VeriLinkRx<sup>®</sup>** takes just seconds.
- Hospital pharmacists can integrate the **VeriLinkRx<sup>®</sup>** into their work flow by adding an audit or spot check routine.
- Audits can be done for individual staff, shifts or departments: returning narcotics can be routinely or randomly tested and deviations noted.
- Inspection of historical **VeriLinkRx<sup>®</sup>** data can show patterns requiring investigation or further action.
- Further action can include:
  - 1.) Investigation of suspect samples.
  - 2.) Third party testing.
  - 3.) Urine testing for individual staff, shifts, or departments.



# Why \$200 - \$1,000 hand held refractometers don't work?

Handheld refractometers are performance limited because their inexpensive components drift and fluctuate with temperature and sample conditions. Handheld refractometers work fine to differentiate between a 10° and 11° Brix food product, but they do not have the refractive index accuracy and temperature control stability to distinguish the Refractive Index difference between substances such as Fentanyl and water.



The **VeriLinkRx**® was developed by Rudolph using technology predicated on rigorous pharmaceutical standards such as USP<831>. To meet the **verifiable  $\pm 0.000005$**  reproducibility the **VeriLinkRx**® has a highly stable measurement and temperature control system. For temperature control, the **VeriLinkRx**® stabilizes the sample droplet to  **$20^{\circ}\text{C} \pm 0.01^{\circ}\text{C}$**  prior to measurement.

The operating system and graphical user interface are designed using strict pharmaceutical compliance criteria. Although Rudolph is relatively new to hospital pharmacies, it has a 60 year history supplying instruments for pharmaceutical quality control.

## VeriLinkRx® Closes the Broken Link in your Narcotics Chain of Custody Program

### VeriLinkRx® is fast, easy, traceable, and accurate.

- A high volume, low cost method to combat drug diversion.
- Measurement time required – 10 seconds.
- Sample volume – 200 microliters.
- Measurement information is stored in a searchable and exportable database along with verification result, patient ID, medical staff, time and date.
- **VeriLinkRx**® is easy to use with minimal training.
- Create a baseline drug reference library for each drug in your facility.
- **VeriLinkRx**® detects when Fentanyl has been diluted.



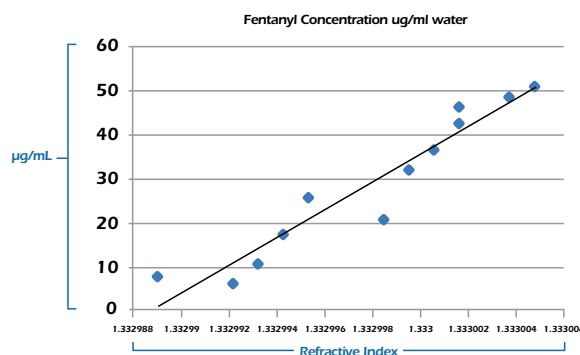
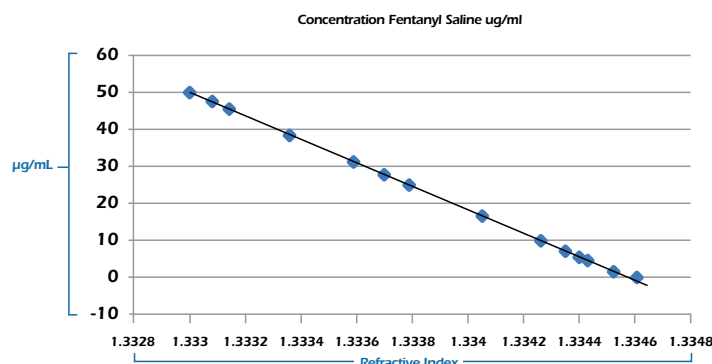
### VeriLinkRx® makes your chain of custody program better.

- **VeriLinkRx**® verifies that dispensed and returned narcotics are the same.
- Integrates into your current work flow easily.
- Expands your current drug diversion program to include actual returned sample testing.
- Is an inexpensive, in-house analytical test to identify possible diversion issues.
- Action is only required when tested samples fail.
- There are no consumables, monthly fees, costly training, or specialized operators.
- **VeriLinkRx**® saves money by reducing third party testing.



# VeriLinkRx® tests proprietary formulations for Compounding and TPN.

The **VeriLinkRx®** tests the quality of formulations and verifies the ingredients are mixed properly. For example, the VeriLinkRx can validate if a dextrose or insulin concentration is mixed too high or low. The VeriLinkRx can also be used for special drug formulations in Children Hospitals such as Fentanyl to verify it is mixed properly in low dosages. An example for the Fentanyl calibrations is shown below, and the system comes pre-calibrated for special formulations such as Fentanyl, and Hydromorphone. More calibrations can be added to the system.



The Rudolph **VeriLinkRx®** is a valuable addition to any hospital pharmacy looking to stay a step ahead of drug diversion and exposure to drug diversion related risks.

## VeriLinkRx® Specifications

### Refractometer Specifications J457 (All models)

**Measurement scales:** Refractive Index (nD), Brix (% Sucrose), and up to 100 custom programmed scales

**Measurement range:** Refractive Index 1.32 – 1.45  
Brix 0 – 100

**Accuracy:** Refractive Index  $\pm 0.00002$   
Brix 0.015

**Reproducibility:** Refractive Index  $\pm 0.000005$   
Brix 0.015

**Resolution:** Refractive Index 0.000001, Brix 0.01

**Temperature control range:** All samples are brought to 20.00°C before measurement

**Temperature control reproducibility:**  $\pm 0.01^\circ\text{C}$

**Ambient temperature limit:** 5°C to 40°C

**Temperature correction range:** 4°C to 95°C (for sucrose solutions)

**Sample temperature limit:** -20°C to 250°C

**Optical wavelength:** 589.3nm (NaD line)

**Response time:** User configurable, generally less than 30 seconds

**Calibration:** Using water or NIST traceable fluids. Factory default calibration can always be reset.

**Prism:** Artificial sapphire

**Acid resistance:** Hastelloy™ measurement surface (optional)

**Data storage/internal memory:** 32 GB Non-removable Compact Flash

**Display:** Adjustable 10.4 inch diagonal, 800-600 pixels, color, Flat Panel Monitor with Resistant Touch Screen Interface, 400 nits brightness, gasketed for spill protection

**User interface:** Touchscreen

**Communication interface:** 3 USB, RS232 and Cat5 Network (Ethernet)

**Operating dimensions/weight:** L: 17 1/4" W: 12" H: 13" / 23 lbs.  
L: 43.5cm W: 30.5cm H: 33cm / 10.4 kg

**Power requirements:** 100 - 240 volts, 50 Hz - 60 Hz