Qiagen virotype PEDV / TGEV / PDCoV RT-PCR

**Type of assay:** Reverse transcription multiplex polymerase chain reaction (RT-PCR)

**Manufacturer:** Qiagen

**Purpose of the assay:** To certify absence or presence of transmissible gastroenteritis virus (TGEV), porcine epidemic diarrhea virus (PEDV) and porcine deltacoronavirus (PDCoV) in porcine samples.

**Species:** Porcine

**Specimens:** Individual oral fluids or environmental samples; individual or pooled intestinal homogenates, feces or fecal swabs

**Analytical sensitivity** (1:10 dilution series, 2 dilutions beyond endpoint, tested in triplicate):

- Linear regression
  - PEDV: \( y = -3.5107x + 31.3665 \) (\( R^2 = 0.9965 \))
  - PDCoV: \( y = -3.3646x + 36.2409 \) (\( R^2 = 0.9902 \))
  - TGEV: \( y = -3.3180x + 25.216 \) (\( R^2 = 0.9717 \))

- Amplification Efficiency
  - PEDV: 0.9965
  - PDCoV: 0.9825
  - TGEV: 1.0017

- Reportable range and limit of detection (LOD)
  - Positive Ct \( \leq 33 \); Suspect Ct 33.01 – 39.99; Negative Ct > 40
    - PEDV LOD: TCID50 = .32
    - PDCoV LOD: TCID50 = .50
    - TGEV LOD: TCID50 = .0056

**Assay performance:**

- Correlation coefficients (comparison to “gold standard” Ambion Path-ID Multiplex One-Step RT-PCR LifeTech assay)
  - PEDV: 98%
  - PDCoV: 98%
  - TGEV: 100%