One-step Rapid Test for Detection of Rotavirus and Adenovirus antigen in human fecal sample

- Rapid diagnosis of pediatric gastroenteritis and diarrhea
- For the prevention of nosocomial infections among children
- Detection two kinds of viruses at the same time (3 result line)

- Test result: 10~20 minutes
- Sample: Feces
- Ready to use: all materials are included
- Convenient & clean test procedure by using disposable filtering & dropping cap
- CE marked
**Rotavirus**

Rotavirus is a virus (germ) that causes severe diarrhea, usually with fever and vomiting. Rotavirus is the most common cause of severe gastroenteritis (diarrhea) in infants and young children. Rotavirus can make children lose body fluids very quickly and is especially dangerous for children less than two years of age. Children between 3 and 35 months of age have the highest risk of infection.

- RNA virus with 7 antigenic types A-G:
  - Group A is the most common
- Most children have been infected at least once by the age of three
- A major cause of diarrhea-associated hospitalizations
- Leading cause of nosocomial diarrhea
- Specific therapy and vaccine are not currently available
- Mainly person to person via fecal-oral route
- Incubation period: thought to be <4 days

**Adenovirus**

Adenoviruses have been implicated in a wide range of clinical diseases affecting mainly the respiratory, ocular and the gastrointestinal systems of humans. Infections are common in children less than 5 years and can occur sporadically or in outbreaks. Enteric adenoviruses apparently are second viral cause of acute gastroenteritis in infants and young children.

- Second most common cause of diarrhea following rotavirus.
- Enteric adenovirus infections can occur anytime throughout the year.
- Spread via fecal-oral route.
- Breast-feeding had a protective action against adenovirus infection.

**Estimated global prevalence of rotavirus disease**

Rotavirus is a major cause of childhood deaths. Estimated global distribution of 440,000 annual deaths in children caused by rotavirus diarrhea.

**Timecourse-adenovirus infection**

**Adenovirus pathogenesis**
Always Good! Always Better!

- Rotaviruses and adenoviruses are the major causes of pediatric gastroenteritis and diarrhea:
  - About 50% of the analyzed specimen among hospitalized children suffering from acute enteric disease were positive for rotavirus. And adenovirus is recognized to be responsible for 10% of infantile gastroenteritis.

- Early detection of rotavirus antigen group A and adenovirus for pertinent treatment

- Sort out infected patients in order to prevent nosocomial infections:
  - Rotavirus or Adenovirus infection can be easily transferred as the virus breeds in the gut and is secreted with feces. Therefore, nosocomial infections with these viruses are dangerous particularly in pediatric wards and neonatal nurseries, and their management is difficult.

<table>
<thead>
<tr>
<th>SD BIOLINE Rota/Adeno</th>
<th>Group A Rotavirus ELISA Result</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive</td>
<td>Negative</td>
</tr>
<tr>
<td>Roravirus Positive</td>
<td>96</td>
<td>1</td>
</tr>
<tr>
<td>Roravirus Negative</td>
<td>0</td>
<td>315</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>96</td>
<td>316</td>
</tr>
</tbody>
</table>

- Sensitivity: 100% (96/96)
- Specificity: 99.7% (315/316)*

<table>
<thead>
<tr>
<th>SD BIOLINE Rota/Adeno</th>
<th>Adenovirus ELISA Result</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive</td>
<td>Negative</td>
</tr>
<tr>
<td>Adenovirus Positive</td>
<td>113</td>
<td>0</td>
</tr>
<tr>
<td>Adenovirus Negative</td>
<td>3</td>
<td>296</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>116</td>
<td>296</td>
</tr>
</tbody>
</table>

- Sensitivity: 97.4% (113/116)
- Specificity: 100% (296/296)**

* The negative samples contain 116 adenovirus, 63 norovirus, 37 astrovirus positive samples and 100 negative samples.

** The negative samples contain 96 rotavirus, 63 norovirus, 37 astrovirus positive samples and 100 negative samples.
Test Procedure & Interpretation

Test Procedure

1. Take a portion of fecal (about 50mg) from a stool sample.
2. Insert the swab into the sample collection tube and swirl the swab at least 10 times.
3. Discard the swab while squeezing the swab against the wall of tube.
4. Assemble dropping cap on the buffer bottle
5. Rotavirus: Add 3~4 drops Rota/Adeno: Add 4~5 drops

Interpretation

### Rotavirus

- **Positive**
- **Negative**
- **Invalid**

### Rota / Adeno Rapid

#### Adenovirus Positive
- 1. ADENOVIRUS 2. ROTAVIRUS
- 3. ROTAVIRUS

#### Rotavirus Positive
- 1. ADENOVIRUS 2. ROTAVIRUS

#### Rotavirus and Adenovirus Positive
- 1. ADENOVIRUS 2. ROTAVIRUS

#### Negative
- 1. ADENOVIRUS 2. ROTAVIRUS

#### Invalid
- 1. ADENOVIRUS 2. ROTAVIRUS

Ordering Information

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Product</th>
<th>Type</th>
<th>Pack size</th>
<th>Storage</th>
<th>Specimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>14FK20</td>
<td>Rota/Adeno Rapid</td>
<td>Device</td>
<td>20 tests/kit</td>
<td>1~30°C 24months</td>
<td>Feces</td>
</tr>
<tr>
<td>14FK10</td>
<td>Rotavirus</td>
<td>Device</td>
<td>20 tests/kit</td>
<td>1~30°C 18months</td>
<td>Feces</td>
</tr>
</tbody>
</table>