

# Gastro-intestinal transit (enteropooling assay)

## A MODEL TO STUDY ANTI-DIARRHEIC EFFECT OF CANDIDATE COMPOUNDS (EFFICACY)

### Model

Transit and motility disorders (constipation or diarrhea) account for 67 % of the side effects described for drugs (analgesics, anti-inflammatory, antidepressants drugs...) and account for 23% of adverse events encountered in Phase I studies. In addition, constipation and diarrhea are common health problems affecting the quality of life. To study the effect of a candidate compound on diarrhea, the enteropooling assay is a simple, reliable and widely used method to assess small intestinal secretion / absorption.

### Interest

- Evaluate efficacy of a test compound to prevent accumulation of fluid into the small intestine on diarrheic animal.
- Model is validated by the clinically used antidiarrheal agent; loperamide.

### Specie

Rat

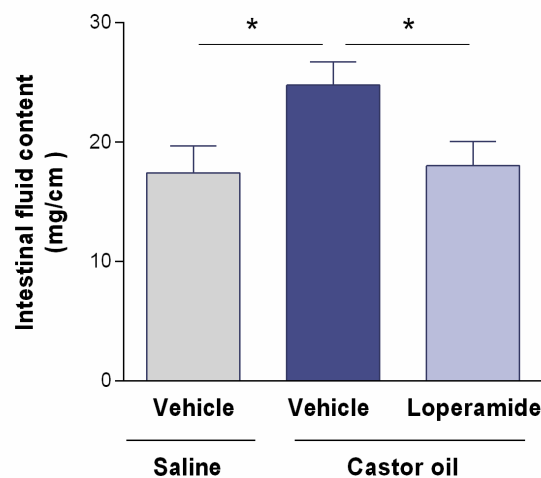
### Model Description

- Diarrhea is induced by oral administration of castor oil.
- Tested compounds can be administered via various routes (i.v., i.p., s.c., p.o., intracolonic).
- 30 min after diarrhea induction, rats are sacrificed and small intestines are collected.

### Parameters evaluated

- Weight of fluid content into small intestine (from pylorus to ileocecal junction) relative to small intestine length (mg/cm)

Preventive treatment with Loperamide reduces small intestinal secretion on diarrheic rats



Loperamide (5 mg/kg, p.o.) or water vehicle (5 mL/kg, p.o.) was administered at T= -30 min. Diarrhea was induced by administration of castor oil (1 mL/rat, p.o.) at T= 0h and evaluation was performed at T= +30 min.

\* P<0.05 (n=7-8/group).