Viral gastroenteritis is the single most important cause of diarrhea in infancy world-wide and accounts for enormous morbidity and mortality in children in both the developing and developed worlds. Our laboratory is interested in the pathogenesis of viral gastroenteritis, specifically in intestinal factors which are critical to the outcome of rotavirus infection which range from asymptomatic viral shedding to severe clinical disease. Previous observations have shown that rotavirus has both a narrowly defined tissue tropism, essentially mature enterocytes of the intestinal villus tip, and a fairly narrow host range restriction, causing disease mainly in suckling animals and usually only with viral strains derived from the same host species. We believe that local gastrointestinal factors determine the outcome of rotavirus infection. Specific studies include:
1) Cell receptors for rotavirus are being identified and characterized by a variety of biochemical and immunological approaches.

2) Rotavirus penetration of target cell membranes. Work from our lab has shown that this is a critical step in determining host cell susceptibility to the virus.

3) Role of enteric secretions on rotavirus pathogenesis. Rotavirus requires exogenous trypsin for replication. We are studying the effects of gastrointestinal proteases and acid secretion on rotavirus pathogenesis in vitro and in vivo.

4) Role of intestinal mucins as a defense mechanism against rotavirus.

5) Mucosal immunity and protection from enteric viral pathogens.

Publications

Histologic Features of Gastrointestinal Tract Biopsies in IgA Vasculitis (Henoch-Schonlein Purpura)  
2018; 42 (4): 529-33

Growing Concerns: A 3-Year-Old Girl with Multiple Hepatic Masses and Gastrointestinal Bleeding  
Yang, C., Gomez, A., Haldipur, A., Berquist, W., Bass, D.  
2018; 63 (2): 329–33

A Mobile Infliximab Dosing Calculator for Therapy Optimization in Inflammatory Bowel Disease.  
2018; 24 (2): 227–34

Vitamin D: a brief overview of its importance and role in inflammatory bowel disease.  
Mudambi, K., Bass, D.  
2018; 3: 31

Role of imaging in the evaluation of inflammatory bowel disease: How much is too much?  
Haas, K., Rubesova, E., Bass, D.  
2016; 8 (2): 124-131

Out-of-pocket Cost Burden in Pediatric Inflammatory Bowel Disease: A Cross-sectional Cohort Analysis  
2015; 21 (6): 1368-1377

Association between lichen sclerosus and celiac disease: a report of three pediatric cases.  
Jacobs, L., Gilliam, A., Khavari, N., Bass, D.  
2014; 31 (6): e128-31

Association Between Lichen Sclerosus and Celiac Disease: A Report of Three Pediatric Cases  
Jacobs, L., Gilliam, A., Khavari, N., Bass, D.  
2014; 31 (6): E128-E131

Utilization Trends of Anti-TNF Agents and Health Outcomes in Adults and Children with Inflammatory Bowel Diseases: A Single-center Experience.  
Park, K. T., Sin, A., Wu, M., Bass, D., Bhattacharya, J.  
2014; 20 (7): 1242-1249

Infliximab for the treatment of granulomatous peritonitis.  
Yeh, A. M., Kern, J., Hillard, P., Bass, D.  
2013; 58 (12): 3397-3399

Cost-effectiveness of Universal Serologic Screening to Prevent Nontraumatic Hip and Vertebral Fractures in Patients With Celiac Disease.  
Park, K. T., Tsai, R., Wang, L., Khavari, N., Bachrach, L., Bass, D.  
2013; 11 (6): 645-653
• Cost-Effectiveness of Early Colectomy With Ileal Pouch-Anal Anastamosis Versus Standard Medical Therapy in Severe Ulcerative Colitis *ANNALS OF SURGERY*
  Park, K. T., Tsai, R., Perez, F., Cipriano, L. E., Bass, D., Garber, A. M.
  2012; 256 (1): 117-124

• Cost-effectiveness Analysis of Adjunct VSL#3 Therapy Versus Standard Medical Therapy in Pediatric Ulcerative Colitis *JOURNAL OF PEDIATRIC GASTROENTEROLOGY AND NUTRITION*
  Park, K. T., Perez, F., Tsai, R., Honkanen, A., Bass, D., Garber, A.
  2011; 53 (5): 489-496

• Acute Liver Failure and Aplastic Anemia in an 11-Year-Old Girl *DIGESTIVE DISEASES AND SCIENCES*
  Yeh, A. M., Mojtahed, A., Bass, D.
  2011; 56 (8): 2237-2240

• Inflammatory Bowel Disease-Attributable Costs and Cost-effective Strategies in the United States: A Review *INFLAMMATORY BOWEL DISEASES*
  Park, K. T., Bass, D.
  2011; 17 (7): 1603-1609

• Immunophenotyping of Peripheral Eosinophils Demonstrates Activation in Eosinophilic Esophagitis *JOURNAL OF PEDIATRIC GASTROENTEROLOGY AND NUTRITION*
  2011; 53 (1): 40-47

• Proton Pump Inhibitor Treatment for Congenital Chloride Diarrhea *DIGESTIVE DISEASES AND SCIENCES*
  Pieroni, K. P., Bass, D.
  2011; 56 (3): 673-676

• Analysis of clinical variables associated with tolerance in pediatric liver transplant recipients *PEDIATRIC TRANSPLANTATION*
  Talisetti, A., Hurwitz, M., Sarwal, M., Berquist, W., Castillo, R., Bass, D., Concepcion, W., Esquivel, C. O., Cox, K.
  2010; 14 (8): 976-979

• Increased HLA-DR Expression on Tissue Eosinophils in Eosinophilic Esophagitis *JOURNAL OF PEDIATRIC GASTROENTEROLOGY AND NUTRITION*
  2010; 51 (3): 290-294

• Increased Number of Regulatory T Cells in Children With Eosinophilic Esophagitis *JOURNAL OF PEDIATRIC GASTROENTEROLOGY AND NUTRITION*
  2010; 51 (3): 283-289

• Eotaxin and FGF enhance signaling through an extracellular signal-related kinase (ERK)-dependent pathway in the pathogenesis of Eosinophilic esophagitis. *Allergy, asthma, and clinical immunology : official journal of the Canadian Society of Allergy and Clinical Immunology*
  2010; 6 (1): 25-?

• Transcription Factors as Disease Indicators in Eosinophilic Esophagitis *10th Annual Meeting of the Federation-of-Clinical-Immunology-Societies*
  ACADEMIC PRESS INC ELSEVIER SCIENCE.2010: S81–S82

• Viral infections: new and emerging *CURRENT OPINION IN GASTROENTEROLOGY*
  Khan, M. A., Bass, D. M.
  2010; 26 (1): 26-30

• Abdominal Pain, Gastrointestinal Bleeding, and Weight Loss in a 17-Year-Old Male *DIGESTIVE DISEASES AND SCIENCES*
  Fuentebella, J., Bass, D., Longacre, T., Ro, K.
  2009; 54 (4): 722-724

• Laboratory evaluation of inflammatory bowel disease *CURRENT OPINION IN PEDIATRICS*
  Wong, A., Bass, D.
  2008; 20 (5): 566-570
Recent advances and evidence gaps in persistent diarrhea 3rd World Congress of Pediatric Gastroenterology, Hepatology and Nutrition
LIPPINCOTT WILLIAMS & WILKINS.2008: 260–65

Use of serologic markers as a screening tool in inflammatory bowel disease compared with elevated erythrocyte sedimentation rate and anemia PEDIATRICS
Sabery, N., Bass, D.
2007; 119 (1): E193-E199

Gastrointestinal bleeding CLINICAL PEDIATRICS
Nguyen, P. C., Garcia-Careaga, M., Bass, D.
2005; 44 (7): 641-643

Maturation and trafficking markers on rotavirus-specific B cells during acute infection and convalescence in children JOURNAL OF VIROLOGY
2004; 78 (20): 10967-10976

Intestinal Imaging of children with acute rotavirus gastroenteritis JOURNAL OF PEDIATRIC GASTROENTEROLOGY AND NUTRITION
Bass, D., Cordoba, T., Dekker, T., Schuind, A., Cassady, J.
2004; 39 (3): 270-274

Noncirrhotic portal hypertension in association with juvenile nephropathic cystinosis: Case presentation and review of the literature JOURNAL OF INHERITED METABOLIC DISEASE
DiDomenico, P., Berry, G., Bass, D., Fridge, J., Sarwal, M.
2004; 27 (5): 693-699

Astrovirus, adenovirus, and rotavirus in hospitalized children: Prevalence and association with gastroenteritis JOURNAL OF PEDIATRIC GASTROENTEROLOGY AND NUTRITION
Rodriguez-Baez, N., O’Brien, R., Qui, S. Q., Bass, D. M.
2002; 35 (1): 64-68

Gastrointestinal safety of an extended-release, nondeformable, oral dosage form (OROS (R))(1) - A retrospective study DRUG SAFETY
2002; 25 (14): 1021-1033

Proteolytic processing of the astrovirus capsid JOURNAL OF VIROLOGY
Bass, D. M., Qui, S. Q.
2000; 74 (4): 1810-1814

Lack of a role for type I and type II interferons in the resolution of rotavirus-induced diarrhea and infection in mice JOURNAL OF INTERFERON AND CYTOKINE RESEARCH
Angel, J., Franco, M. A., Greenberg, H. B., Bass, D.
1999; 19 (6): 655-659

Travel vaccines INFECTION DISEASE CLINICS OF NORTH AMERICA
Thompson, R. F., Bass, D. M., HOFFMAN, S. L.
1999; 13 (1): 149-?

Prevalence of astroviruses in a children’s hospital JOURNAL OF CLINICAL MICROBIOLOGY
1998; 36 (9): 2571-2574

Celiac disease presenting as gait disturbance and ataxia in infancy 24th Annual Meeting of the Child-Neurology-Society
Hahn, J. S., Sum, J. M., Bass, D., Crowley, R. S., Horoupian, D. S.
SAGE PUBLICATIONS INC.1998: 351–53

Studies of the role for NSP4 in the pathogenesis of homologous murine rotavirus diarrhea JOURNAL OF INFECTIOUS DISEASES
Angel, J., Tang, B. Z., Feng, N. G., Greenberg, H. B., Bass, D.
1998; 177 (2): 455-458
- Wernicke encephalopathy and Beriberi during total parenteral nutrition attributable to multivitamin infusion shortage *PEDIATRICS*
  Hahn, J. S., Berquist, W., Alcorn, D. M., Chamberlain, L., Bass, D.
  1998; 101 (1)

- Characterization of human serotype 1 astrovirus-neutralizing epitopes *JOURNAL OF VIROLOGY*
  Bass, D. M., Upadhyayula, U.
  1997; 71 (11): 8666-8671

- Expression of mucosal homing receptor alpha 4 beta 7 by circulating CD4(+) cells with memory for intestinal rotavirus *JOURNAL OF CLINICAL INVESTIGATION*
  1997; 100 (5): 1204-1208

- Interferon gamma and interleukin 1, but not interferon alfa, inhibit rotavirus entry into human intestinal cell lines *GASTROENTEROLOGY*
  Bass, D. M.
  1997; 113 (1): 81-89

- Viral infections of the gastrointestinal tract *CURRENT OPINION IN GASTROENTEROLOGY*
  Bass, D.
  1996; 12 (1): 76-81

- DANSYLCADAVERINE AND CYTOCHALASIN-D ENHANCE ROTAVIRUS INFECTION OF MURINE L-CELLS *VIROLOGY*
  Bass, D. M., Baylor, M., Chen, C., Upadhyayula, U.
  1995; 212 (2): 429-437

- Effects of cytokines on rotavirus infection of human CaCo 2 intestinal cells *1995 Joint Meeting of the United-States/Japan Cooperative Medical Sciences Program Panels on Malnutrition and Cholera*
  Bass, D. M.
  IOS PRESS.1995: 99–103

- VIRAL-INFECTIONS OF THE GASTROINTESTINAL-TRACT *CURRENT OPINION IN GASTROENTEROLOGY*
  Bass, D.

- Can we actively treat rotavirus gastroenteritis? *Journal of pediatric gastroenterology and nutrition*
  Bass, D.
  1994; 19 (4): 473-474

- MURINE INTESTINAL MUCINS INHIBIT ROTAVIRUS INFECTION *GASTROENTEROLOGY*
  Chen, C. C., Baylor, M., Bass, D. M.
  1993; 105 (1): 84-92

- CHILDHOOD AND VIRAL-INFECTIONS *CURRENT OPINION IN INFECTIOUS DISEASES*
  Bass, D.
  1993; 6 (1): 83-87

- LIPOSOME-MEDIATED TRANSFECTION OF INTACT VIRAL PARTICLES REVEALS THAT PLASMA-MEMBRANE PENETRATION DETERMINES PERMISSIVITY OF TISSUE-CULTURE CELLS TO ROTAVIRUS *JOURNAL OF CLINICAL INVESTIGATION*
  1992; 90 (6): 2313-2320

- MOLECULAR-BASIS OF AGE-DEPENDENT GASTRIC INACTIVATION OF RHESUS ROTAVIRUS IN THE MOUSE *JOURNAL OF CLINICAL INVESTIGATION*
  Bass, D. M., Baylor, M., Broome, R., Greenberg, H. B.
  1992; 89 (6): 1741-1745

- STRATEGIES FOR THE IDENTIFICATION OF ICOSAHEDRAL VIRUS RECEPTORS *JOURNAL OF CLINICAL INVESTIGATION*
  Bass, D. M., Greenberg, H. B.
  1992; 89 (1): 3-9
• IDENTIFICATION AND PARTIAL CHARACTERIZATION OF A RHESUS ROTAVIRUS BINDING GLYCOPROTEIN ON MURINE ENTEROCYTES *VIROLOGY*
  1991; 183 (2): 602-610

• SYMMETRICAL INFECTION OF ROTAVIRUS ON POLARIZED HUMAN INTESTINAL EPITHELIAL (Caco-2) CELLS *JOURNAL OF VIROLOGY*
  1991; 65 (8): 4190-4197

• IMMUNIZATION WITH BACULOVIRUS-EXPRESSED VP4 PROTEIN PASSIVELY PROTECTS AGAINST SIMIAN AND MURINE ROTAVIRUS CHALLENGE *JOURNAL OF VIROLOGY*
  MACKOW, E. R., Vo, P. T., Broome, R., Bass, D., Greenberg, H. B.
  1990; 64 (4): 1698-1703

• NS35 AND NOT VP7 IS THE SOLUBLE ROTAVIRUS PROTEIN WHICH BINDS TO TARGET-CELLS *JOURNAL OF VIROLOGY*
  1990; 64 (1): 322-330