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

PUBLICATIONS

• Syphing Through the Evidence: A Very Distinctive Cause of Neonatal Jaundice. *Digestive diseases and sciences*
  Ruiz, R. M., Bass, D. M.
  2019

• Histologic Features of Gastrointestinal Tract Biopsies in IgA Vasculitis (Henoch-Schonlein Purpura) *AMERICAN JOURNAL OF SURGICAL PATHOLOGY*
  2018; 42 (4): 529–33

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

• Outcome of tacrolimus and vedolizumab after corticosteroid and anti-TNF failure in paediatric severe colitis. *BMJ open gastroenterology*
  2018; 5 (1): e000195

• Histologic Features of Gastrointestinal Tract Biopsies in IgA Vasculitis (Henoch-Schönlein Purpura). *The American journal of surgical pathology*
  2018; 42 (4): 529–33

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

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

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

• Predictive Value of Fecal Calprotectin in Pediatric GVHD. *Journal of pediatric gastroenterology and nutrition*
  2016

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

• Association between lichen sclerosus and celiac disease: a report of three pediatric cases. *Pediatric dermatology*
  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 *PEDIATRIC DERMATOLOGY*
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. Inflammatory bowel diseases
Park, K. T., Sin, A., Wu, M., Bass, D., Bhattacharya, J.
2014; 20 (7): 1242-1249

• Infliximab for the treatment of granulomatous peritonitis. Digestive diseases and sciences
Yeh, A. M., Kerner, 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. Clinical gastroenterology and hepatology
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 Anastomosis 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., Friddle, 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., Qiu, 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., Qiu, 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

• DANSYLCAVERINE 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.
  I O S 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.
• 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-BASES 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