

# Oligosaccharide to Prevent Necrotizing Enterocolitis

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## PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	9,675,649	06/13/2017	2011-192

## BACKGROUND

Necrotizing enterocolitis (NEC) is one of the most frequent and fatal intestinal disorders of preterm infants. Nearly 10 percent of very-low-birth-weight infants develop it, and over a quarter of NEC infants will die from this disorder. The survivors are often faced with long-term neurological impairment. Formula-fed infants are at a 6-10-fold higher risk to develop NEC; several molecules in human milk are thought to be associated with NEC protection and yet despite improvements in formula composition, formula-fed infants remain at a 6- to 10-fold higher risk than breast-fed infants. Identifying the protective component in human milk could lead to the development of better options to diagnose, treat, and perhaps even prevent, this disorder.

## TECHNOLOGY DESCRIPTION

A researcher at UC San Diego has identified a bioactive human milk oligosaccharide lacking from infant formula that inhibit key events in necrotizing enterocolitis pathogenesis.

## STATE OF DEVELOPMENT

Acquired *in vivo* data showing that human milk oligosaccharides (HMO) significantly reduce NEC in an animal disease model. Specifically, rats receiving formula without a specific HMO developed NEC with an average pathology score of 1.98. The pathology score was significantly reduced when supplemented with HMO in the range of 0.1 and 10 mg/mL, resembling the HMO concentration in rat and human milk, respectively. None of the rats that received HMO had a pathology score that was higher than the average score of rats that received formula without HMO. Breast-fed pups were not significantly different from rats that received HMO with their formula.

## RELATED MATERIALS

- [Bode L. Human Milk Oligosaccharides: Prebiotics and Beyond. Nutr Rev. 2009 Nov;67 Suppl 2:S183-91 \(background review of subject\).](#)

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### CATEGORIZED AS

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