SUMMARY: The inventions listed below are owned by agencies of the U.S. Government and are available for licensing in the U.S. in accordance with 35 U.S.C. 207 to achieve expeditious commercialization of results of federally-funded research and development. Foreign patent applications are filed on selected inventions to extend market coverage for companies and may also be available for licensing.

ADDRESS: Licensing information and copies of the U.S. patent applications listed below may be obtained by writing to the indicated licensing contact at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, Rockville, Maryland 20852–3804; telephone: 301/496–7057; fax: 301/402–0220. A signed Confidential Disclosure Agreement will be required to receive copies of the patent applications.

Identification of Polymorphisms of the PCTG-4 Gene
RA Philibert, EI Ginns (NIMH)
Provisional U.S. Patent Application No. 60/083,465 filed 29 Apr 98
Licensing Contact: Leopold J. Luberecki, Jr.; 301/496–7735 ext. 223; e-mail: 1187a@nih.gov

Mental retardation affects approximately 1–3% of the U.S. population and results in at least $10 billion in annual treatment costs. Mutations in the X-chromosome may cause 30–50% of all cases of mental retardation. This technology is directed to the identification of an X-linked polymorphism that appears to convey a five-fold increase in the relative risk for mental retardation and is markedly enriched in individuals suffering from autism. The various polymorphisms will likely enable further studies aimed at eliciting the underlying mechanisms of these diseases and may provide a model system for the development of new drugs. It may also have a role as a prognostic indicator.

Combination Therapy with VIP Antagonists
Ilana Gozes (Tel Aviv University), Terry W. Moody (NCI), Douglas C. Brenneman (NICHD), Mati Fridkin (Weizman Institute of Science), Edgar Gelber (Tel Aviv University) and Albert Levy (Tel Aviv University)
Serial No. 60/104,472 filed 16 Oct 98 and Serial No. 60/104,907 filed 20 Oct 98
Licensing Contact: Dennis Penn; 301/496–7056 ext. 211; e-mail: dp144q@nih.gov

This invention relates generally to cancer treatment. More particularly, the present invention relates to combination therapy using a polypeptide which is an antagonist of the vasoactive intestinal polypeptide (VIP) and a chemotherapeutic agent, preferably in a pharmaceutical composition.

Vasoactive intestinal polypeptide (VIP) is a widely distributed peptide hormone which mediates a variety of physiological responses including gastrointestinal secretion, relaxation of gastrointestinal vascular and respiratory smooth muscle, lipolysis in adipocytes, pituitary hormone secretion, and excitation and hyperthermia after injection into the central nervous system. Vasoactive intestinal peptide is a 28 amino acid peptide with an amidated C-terminus, the peptide results from post translational processing of a hormone composed of 170 amino acid residues. The VIP peptide has been shown to contain at least two functional regions, a region involved in receptor specific binding and a region involved in biological activity (Gozes and Brenneman, Molecular Neurobiology, 3, 201–236 (1989)).

Gozes, et al. have developed a VIP antagonist that has proven useful for altering the function of the vasoactive intestinal peptide. (See, U.S. Patent No. 5,217,953 issued to Gozes, et al. (1993)). This VIP antagonist was designed to retain the binding properties of VIP for its receptor, but to lack the amino acid sequence necessary for biological activity. Studies have shown that this VIP antagonist effectively antagonizes VIP-associated activity. It has been reported that this VIP antagonist inhibits the growth of VIP receptor bearing tumor cells such as, for example, lung tumor cells (i.e., non-small cell lung cancer cells). (See, U.S. Patent No. 5,217,953.)

U.S. Patent No. 5,565,424, which issued to Gozes, et al. on October 15, 1996, discloses another family of polypeptides which are antagonists of the vasoactive intestinal polypeptide. The VIP antagonists disclosed therein are 10–1000 times more efficacious, i.e., more potent in inhibiting VIP-associated activity than previous VIP antagonists. These superactive VIP antagonists were shown to inhibit cancer growth in lung and glioblastoma cells. Examples of superactive VIP antagonists include amino acid sequences referred to as the "norleucine-hybrid VIP antagonist", the "stearyl-norleucine-hybrid VIP antagonist" and the "stearyl-VIP antagonist".

The present invention relates to a pharmaceutical composition comprising a vasoactive intestinal polypeptide (VIP) antagonist, a chemotherapeutic agent...