Proof of Bi-Polar Ionization Efficacy Attained Through Collaborative Research with Organizations Globally

Target Harmful Substance	Testing & Verification Organization
Airborne Viruses	Kitasato Research Center of Environmental Sciences, Japan
	Seoul National University, Korea
	Shanghai Municipal Center for Disease Control and Prevention, China
	Kitasato Institute Medical Center Hospital, Japan
	Retroscreen Virology, Ltd., UK
Airborne Allergens	Graduate School of Advanced Sciences of Matter, Hiroshima University, Japan
	Asthma Society of Canada, Canada
Airborne Mold Fungi	Ishikawa Health Service Association, Japan
	Professor Gerhard Artmann, Aachen University of Applied Sciences, Germany
Airborne Bacteria	Ishikawa Health Service Association, Japan
	Shanghai Municipal Center for Disease Control and Prevention, China
	Kitasato Research Center of Environmental Sciences, Japan
	Kitasato Institute Medical Center Hospital, Japan
	Professor Gerhard Artmann, Aachen University of Applied Sciences, Germany
	Harvard School of Public Health, US
Adhering Odors	Japan Spinners Inspecting Foundation, Japan
Adhering Mold Fungi	University of Lübeck, Germany
	Japan Food Research Laboratories, Japan

Note: Results of testing and verification experiments for other target harmful substances performed at the same organization at the same time have been omitted.

Detailed lab results of Bi-Polar ionization effects on various pathogens

Virus Tests				
Virus	Test method / effect▫	Joint test facility	Virus overview	Date
H5N1 avian influenza virus	Test space: 1-m^3 box Exposure time: 10 min. Removal rate: 99.9%	Retroscreen Virology (England) (Prof. John S. Oxford)	Influenza virus that infects birds	Aug 2008
H5N1 avian influenza virus	Test space: 1-m^3 box Exposure time: 10 min. Removal rate: 99.0%	Retroscreen Virology (England) (Prof. John S. Oxford)	Influenza virus that infects birds	May 2005
H1N1 human influenza virus	Test space: 1- m^3 box Exposure time: 25 min. Removal rate: 99.7%	Kitasato Institute, Kitasato University Kitasato Institute Medical Center Hospital	Influenza virus that infects humans	Feb 2004
Feline Coronavirus	Test space: 1- m^3 box Exposure time: 35 min. Removal rate: 99.7%	Kitasato Institute, Kitasato University Kitasato Institute Medical Center Hospital	Feline infectious peritonitis virus	July 2004
Coxsackie Virus	Testing: one-pass test Exposure time: 3.3 seconds Removal rate: 98.9%	Kitasato Research Center of Environmental Sciences, Japan	Virus causing summer colds	Feb 2002
Polio Virus	Testing: one-pass test Exposure time: 3.3 seconds Removal rate: 98.9%	Kitasato Research Center of Environmental Sciences, Japan	Virus causing paralysis in children	Feb 2002
SARS Virus	Test space: one-bath test Exposure time: 3.3 sec. Removal rate: 73.4%	Retroscreen Virology (England) (Prof. John S. Oxford)	SARS disease virus	Oct 2005

▫Calculated based on experiment data

Bacterium Tests		
Bacterium	Test facility	Date
Serratia Bacterium	Harvard School of Public Health (USA) Melvin First,Professor Emeritus	March 2007
Enterococcus, Staphylococcus, Sarcina, Micrococcus	CT&T (Aachen University of Applied Sciences (Germany), Prof. Artmann)	November 2004
Bacillus Subtilis	CT&T (Aachen University of Applied Sciences (Germany), Prof. Artmann)	November 2004
MRSA (methicillin-resistant Staphylococcus aureus)	Kitasato Institute, Kitasato University Kitasato Institute Medical Center Hospital	February 2004
MRSA (methicillin-resistant Staphylococcus aureus)	Kitasato Research Center of Environmental Sciences	September 2002
Bacillus subtilis	Kitasato Research Center of Environmental Sciences	September 2002
Pseudomonas, Enterococcus, Staphylococcus	Medical School of Luebeck (Germany)	February 2002
Escherichia coli, white Staphylococcus, Candida	Shanghai Municipal Center for Disease Control and Prevention (China)	October 2001
Escherichia coli	Ishikawa Health Service Association	September 2000

Allergen Tests		
Allergen	Test facility	Date
Mites, Pollens	Graduate School of Advanced Sciences of Matter, Hiroshima University	September 2003

Fungus Tests		
Fungus	Test facility	Date
Cladosporium	CT&T (Aachen University of Applied Sciences (Germany), Prof. Artmann)	November 2004
Aspergillus, Penicillium (2 types), Stachybotrys, Alternaria, Mucor	CT&T (Aachen University of Applied Sciences (Germany), Prof. Artmann)	November 2004
Cladosporium	Medical School of Luebeck (Germany) for growth-inhibitory effect	February 2002
Penicillium, Aspergillus	Medical School of Luebeck (Germany) for growth-inhibitory effect	February 2002
Cladosporium	Ishikawa Health Service Association	September 2000

GLOBAL PLASMA SOLUTIONS
714 Mall Blvd
Savannah, GA 31406
Phone: (912) 964-8541 Fax: (912) 964-1844
Email: info@globalplasmasolutions.com
www.globalplasmasolutions.com