Native Antigens

Native Antigens to Assist Your Research for **Infectious Disease Diagnostics**

Creative Diagnostics provides expansive range of IVD raw materials for immunoassay development.

CD Creative Diagnostics®

Content

Infectious diseases can spread from the environment or from one person to another resulting in illness in our communities. These diseases are disorders caused by pathogens, such as viruses, bacteria, fungi or parasites. The identification of pathogens has a tremendous impact on infectious diseases, microbiology, and human health. Currently available diagnostic tests for pathogens are traditional microbiology, immunoassays and molecular tests.

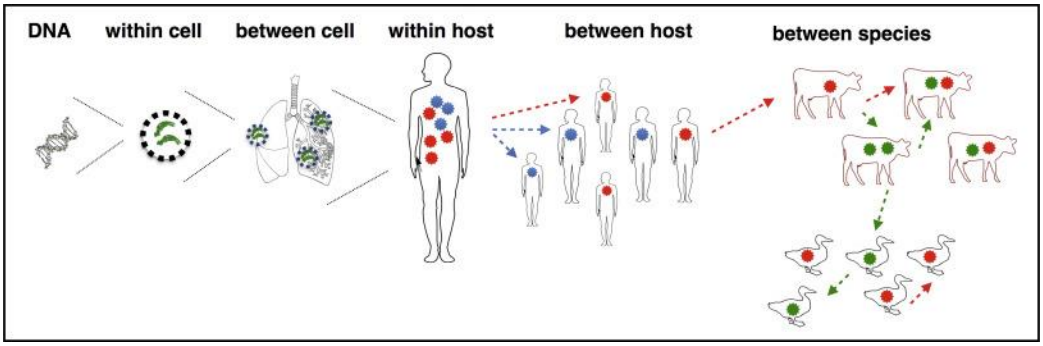

Fig. 1 The scales of infectious disease dynamics and evolution (Metcalf C J E, et al. 2015)

Native antigens are extracted in their natural form from an appropriate source. Pathogen specific native antigens are known for their high sensitivity in diagnostics applications and are widely used for immunodiagnostic assays, especially in IgM detection. Creative Diagnostics offer a broad range of native antigens for diagnostic laboratories and research institutes, and is an ideal basis for the development and production of infectious disease kits and reagents. All antigens are purified using a range of techniques to ensure optimal performance in diagnostic applications.

Viral Pathogens

Viruses are infectious pathogens that cause a broad range of diseases. They are small particles, typically between 20 and 300 nanometers in length, containing RNA or DNA. Viruses require a host cell to replicate. Pathogenic viruses are mainly from the families: coronaviridae, herpesviridae, retroviridae, orthomyxoviridae, paramyxoviridae and paramyxoviridae. Some of the diseases that are caused by viral pathogens include influenza, mumps, measles, chickenpox, ebola, HIV, rubella, and COVID-19. Viral infections are a frequent cause of disease in individuals of all ages. In general, the spectrum of illness is varied; however, young children and those with suppressed or deficient immune systems are at higher risk of having severe disease. Antiviral drugs such as oseltamivir and zanamivir may be prescribed for some cases of flu. Antiretroviral medications can help people with HIV/AIDS lead longer lives.

◆ Products List

Analytes	Cat.No	Product Name	Applications
Dengue Virus	DAG-T2660	Dengue Type 1 protein	ELISA, WB, LF
	DAGF-039	Dengue Type 2 protein	ELISA, WB, LF
	DAG-T2662	Dengue Type 3 protein	ELISA, WB, LF
	DAG-T2663	Dengue Type 4 protein	ELISA, WB, LF
West Nile Virus	DAGA-3052	Native West Nile Virus Antigen (Strain 385-99 (New York))	ELISA
	DAGA-3053	Native West Nile Virus Antigen (Strain B956 (Uganda))	ELISA
Zika Virus	DAGA-3054	Native Zika Virus Antigen (Strain MR 766)	ELISA
Cytomegalovirus	DAG3225	Native CMV (Strain AD169) Antigen	ELISA, WB
Epstein–Barr Virus	DAG3084	Native EBV VCA Glycoprotein 125	ELISA, WB
Varicella Zoster Virus	DAG-H10385	VZV Grade 2	ELISA, WB, EIA
Herpes Simplex Virus	DAG3232	Native HSV type 1 Infected Cell Extract	ELISA, WB

	DAG3238	Native HSV type 2 Infected Cell Extract	ELISA, WB
Measles Virus	DAG-H10368	Measles Grade 2	ELISA
Mumps Virus	DAG-H10369	MuV Grade 2	ELISA, WB
Parainfluenza virus	DAG-H10372	PIV type 2 Grade 2	ELISA, WB, EIA
	DAG-H10373	PIV type 3 Grade 2	Control, EIA
Respiratory Syncytial Virus	DAG3087	Native RSV (Strain Long)	ELISA, LF
	DAG-WT314	Native RSV (Vero)	Control
Influenza A Virus	DAG3690	Influenza A Virus (A/New Caledonia/20/99 (H1N1)) Antigen	Control, ELISA
Influenza B Virus	DAG197	Influenza B Virus (Hong Kong 5/72) Antigen	Control, ELISA
Hepatitis A Virus	DAG178	Native Inactivated HAV Antigen	EIA
Hepatitis B Virus	DAG2758T	HBV Surface Antigen (subtype ay)	ELISA; EIA
Adenovirus	DAG-H10374	ADV Positive Sample	ELISA, LF
Rotavirus	DAG-H10379	Rotavirus Grade 3	EIA, Control, LF
Rubella Virus	DAG213	Native Rubella Virus Antigen	EIA

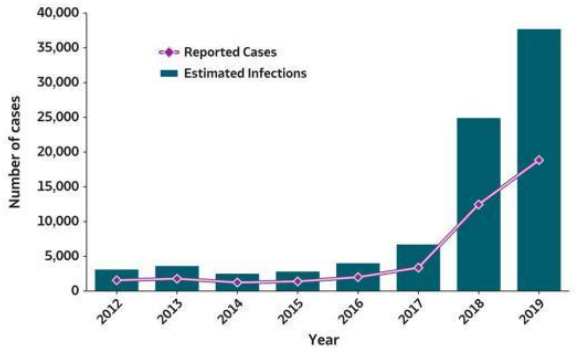

Fig. 2 Number of reported hepatitis A virus infection cases and estimated infections* — United States, 2012–2019 (Source: CDC, National Notifiable Diseases Surveillance System)

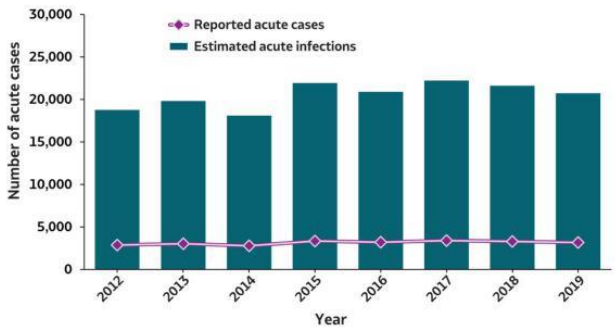

Fig. 3 Number of reported hepatitis B virus infection cases and estimated infections* — United States, 2012–2019 (Source: CDC, National Notifiable Diseases Surveillance System)

Bacterial Pathogens

While only about 5% of bacterial species are pathogenic, bacteria have historically been the cause of a disproportionate amount of human disease and death. Diseases such as smallpox, malaria, tuberculosis, typhus, plague, diphtheria, typhoid, cholera, dysentery and pneumonia have taken a large toll of humanity. The internal tissues of bacteria are normally sterile, however, some opportunistic pathogens are able to enter the host by taking advantage of injuries or breaches in one of the different host barriers. Bacterial pathogens have evolved a wide range of strategies to colonize and invade human organs, despite the presence of multiple host defense mechanisms. Extracellular pathogens use virulence mechanisms to evade the antimicrobial capabilities of humoral immunity and phagocytosis thus promoting extracellular multiplication. Water purification, immunization (vaccination) and antibiotic treatment have reduced the morbidity and the mortality of bacterial disease in the twenty-first century.

◆ Products List

Genus	Cat.No	Product Name	Applications
Borrelia	DAG3125	Native B. burgdorferi Grade 2	EIA
	DAGA-560	Borrelia afzelii (strain PKo)	ELISA, LF
Bordetella	DAGH043	Native Bordetella pertussis FHA	Control
Campylobacter	DAG4688	Native Campylobacter jejuni Antigen	ELISA, LF
Chlamydia	DAGA-474	Native Chlamydia trachomatis EB Antigen	ELISA, WB
	DAG-H10357	Chlamydia trachomatis Grade 2	Control
Helicobacter	DAG-WT402	Helicobacter pylori Positive Control (Strain ATCC26695)	Control
	DAG-WT403	Helicobacter pylori Positive Control (Strain ATCC43504)	Control
	DAG-WT404	Helicobacter pylori Positive Control (Strain ATCC700392)	Control
	DAG-WT405	Helicobacter pylori Positive Control (Strain ATCC700684)	Control
	DAG-WT406	Helicobacter pylori Positive Control (Strain ATCC700824)	Control
Legionella	DAG4699	Native Legionella pneumophila Antigen	ELISA, LF
Mycoplasma	DAG2752	Mycoplasma pneumoniae FH Antigen	EIA
	DAG-H10370	Native Mycoplasma pnuemoniae Antigen (Grade 2)	ELISA, WB
Mycobacterium	DAGA-168	Native M. Tuberculosis LAM antigen	EIA, CLIA, LF
Salmonella	DAGA-3049	Native Salmonella paratyphi A Antigen	ELISA, LF
	DAGA-3050	Native Salmonella paratyphi B Antigen	ELISA, LF
	DAGA-3051	Native Salmonella typhimurium antigen	ELISA, LF
Shigella	DAGA-3027	Native Shigella Flexneri	Control, LF
Yersinia	DAG4709	Native Y. enterocolitica (subtype O:3) YOP Protein	ELISA
	DAG4710	Native Y. enterocolitica (subtype O:8) YOP Protein	ELISA
	DAG4711	Native Y. enterocolitica (subtype O:9) YOP Protein	ELISA

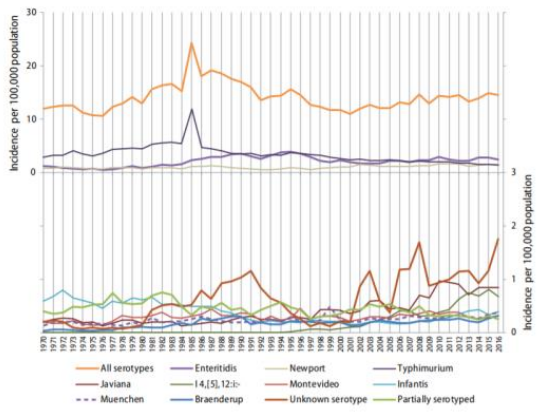

Fig. 4 Incidence rate of culture-confirmed human Salmonella infection reported to LEDS by year, United States, 1970–2016 (Source: CDC, National Notifiable Diseases Surveillance System)

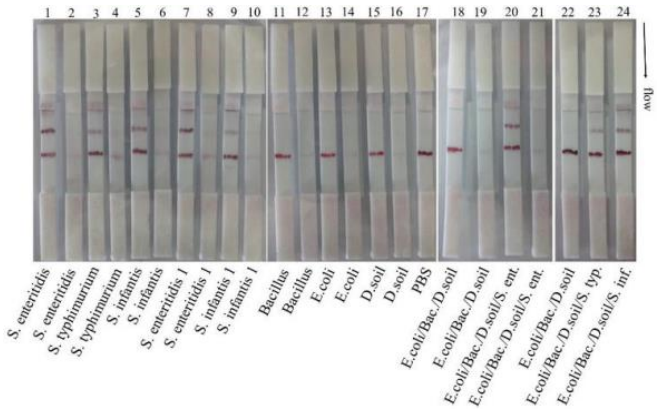

Fig. 5 Dipstick assay for live Salmonella strains alone and in the mixture (D ÇAM. 2019)

Parasitic Pathogens

A parasite is defined as an organism that lives in a more or less close association with another organism of a different species (the host), derives sustenance from it and is pathogenic to the host, although this potential is not always expressed. In medicine the term is used in a narrower sense and designates eukaryotic pathogens, which belong to the protozoa and metazoa, including helminths, arthropods, and some other groups of lower medical significance. Parasites cause numerous diseases in humans, some being of extraordinary significance. The parasites are categorized into three major groups: protozoans, helminths, and ectoparasites. More than 3 billion people worldwide are infected by intestinal parasites or protozoans, and parasitic diseases are among the leading causes of deaths in humans globally. Major parasitic diseases include: chagas disease, giardia infection, leishmaniasis, malaria and toxoplasmosis.

◆ Products List

Species	Cat.No	Product Name	Applications
Cryptosporidium parvum	DAGA-3021	Cryptosporidium parvum Antigen	LF, Control
Echinococcus granulosus	DAGZ018	E. granulosus	Control
Toxoplasma gondii	DAGZ013	Native T. gondii antigen (RH Strain)	ELISA
Trichomonas vaginalis	DAG-P2204	T. vaginalis (full length)	ELISA
Trypanosoma cruzi	DAGF-202	Trypanosoma Cruzi Chagas Protein	ELISA, WB

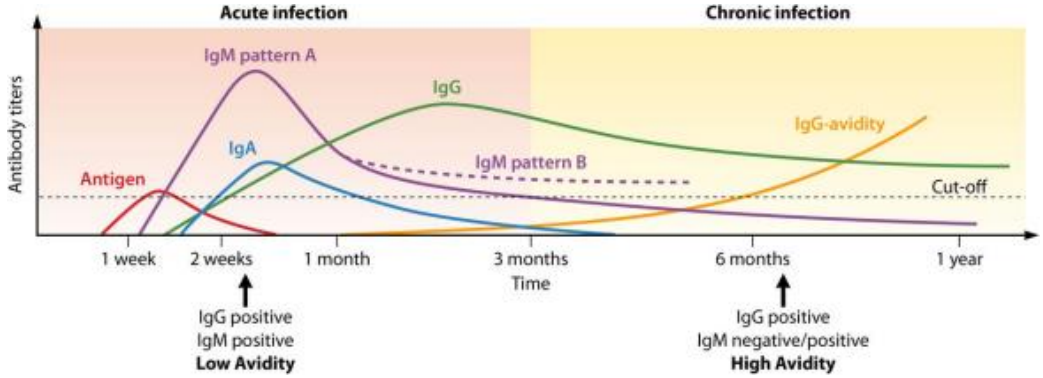

Fig. 6 Relative changes in Toxo IgM, IgG, and IgG avidity over time following primary infection (Teimouri A, et al. 2020)

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