



Vaccine Therapeutics

Research & Manufacturing



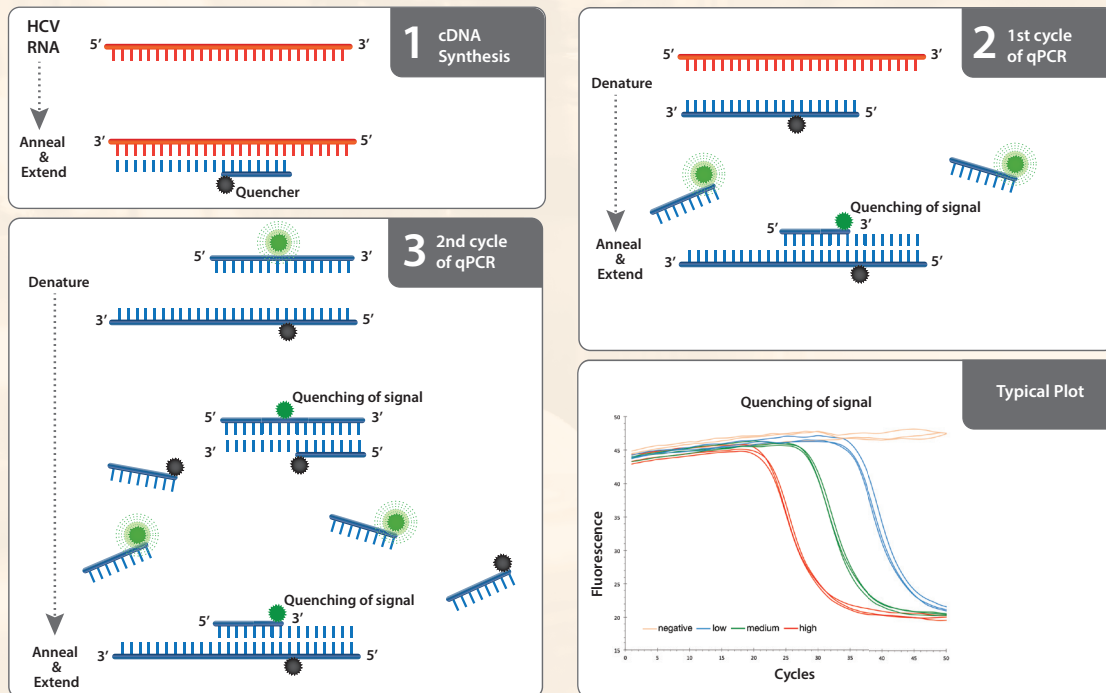
INNOVATIVE TOOLS – FROM DISCOVERY TO DEVELOPMENT

Vaccines are crucial tools used in public health to control the spread of infectious diseases. Historically, vaccines have been the single most effective means to fight and ultimately eradicate certain infectious diseases. Today, vaccines are in high demand as the global community struggles through epidemics of diseases that do not yet have a vaccine. We provide reagents to ensure that your vaccines are first-to-market and cost-effective, two key issues that can make or break the launch of a vaccine. As part of our portfolio, we offer tools to develop cell-based cancer vaccines, which efficiently target heterogenous cancer cells. Enzo Life Sciences offers a comprehensive offering of tools and forty years of expertise to ensure that your development is successful, from target identification to launch.

UNIQUE CONTROLS TO MONITOR VACCINE EFFICIENCY FROM DISCOVERY TO CLINICAL TRIALS

AMPIPROBE® HCV ASSAY KIT (ENZ-GEN200)

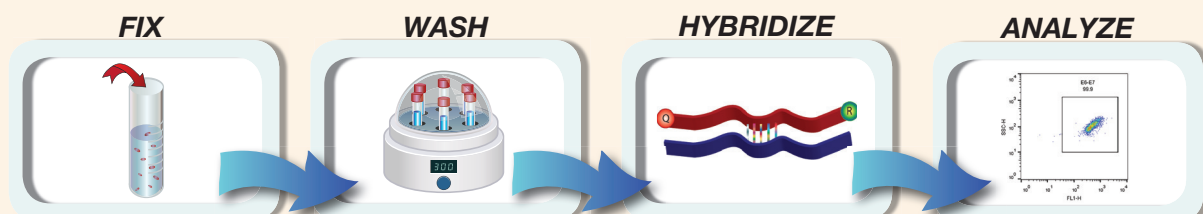
The AMPIPROBE® HCV Assay Kit is a (RT-qPCR) assay for the quantitative detection of human hepatitis C virus (HCV) RNA in plasma or serum. The proprietary primer mix included in the kit is specific for HCV genotypes 1 through 6.



FLOWSCRIPT® HPV E6/E7 ASSAY KIT (ENZ-GEN300)

The assay employs a novel *in situ* hybridization technique utilizing a cocktail of probes specific to multiple sites within the E6 and E7 genes to ensure the detection of these mRNA transcripts. This homogeneous assay can be performed in less than 3 hours and is specific for the most prevalent high-risk HPV genotypes.

RESULTS IN LESS THAN 3 HOURS



ACCELERATE VACCINE DISCOVERY

NATIVE BACTERIAL AND VIRAL ANTIGENS

OPTIMIZED EXPRESSION SYSTEMS DELIVER SUPERIOR ANTIGENICITY

We offer a broad range of native state bacterial and viral antigens for vaccine research and *in vitro* diagnostics markets. Purified native proteins or production in the latest mammalian expression systems ensure that the resultant antigens are expressed to a high level, are in their native folded state, and possess all relevant post-translational modifications.

- Higher specificity and sensitivity
- Minimal lot-to-lot variation
- Reproducible scale-up for bulk quantities
- Lyophilized format for extended shelf-life

PRODUCT NAME	PRODUCT #
Adenovirus type 5 hexon protein	ALX-630-120
Adenovirus type 40 antigen	ALX-630-121
Cholera toxin (<i>Vibrio cholerae</i>), (azide free)	BML-G117
Dengue NS1 ST1, (recombinant)	ENZ-PRT104
Dengue NS1 ST2, (recombinant)	ENZ-PRT105
Dengue NS1 ST3, (recombinant)	ENZ-PRT106
Dengue NS1 ST4, (recombinant)	ENZ-PRT107
HSV-1 native antigen	ALX-630-126
HSV-2 native antigen	ALX-630-127
Yellow Fever NS1, (recombinant)	ENZ-PRT109

IMMUNOASSAYS

DETECT ANALYTES ACCURATELY WITH HIGH-SENSITIVITY ELISA KITS

Our catalog of nearly 300 ELISA kits includes sensitive, specific assays for relevant markers of cell viability, signaling pathways, steroid and peptide hormones, inflammation, and more.

PGE₂ ELISA Kit

- Ultra-sensitive colorimetric ELISAs measures as little as 8.26 pg/mL PGE₂
- Available to use for cell lysates, culture supernatants, serum, saliva, urine, and many more sample types
- Validated with a broad range of sample types
- Widely cited in peer-reviewed literature
- High-throughput capabilities with chemiluminescent and fluorescent format options

PRODUCT NAME	PRODUCT #
AMP'D HSP70 High Sensitivity ELISA Kit	ENZ-KIT-101
cAMP Complete ELISA Kit	ADI-900-163
DHEA ELISA Kit	ADI-900-093
HSP90 α (human) ELISA Kit	ADI-EKS-895
IFN- γ (human) ELISA kit	ADI-900-136
IL-1 β (human) ELISA kit	ADI-900-130
IL-6 (human) High Sensitivity ELISA Kit	ENZ-KIT178
IL-8 (human) ELISA Kit	ADI-900-156
LTB ₄ ELISA Kit	ADI-900-068
p62 ELISA Kit	ADI-900-212
PGE ₂ High Sensitivity ELISA Kit	ADI-930-001
TNF- α ELISA Kit	ADI-900-099

ANTIBODIES

DETECT SPECIFIC CELL POPULATIONS WITH ANTIBODIES FOR CD MARKERS

We offer a broad range of antibodies for use in all areas of vaccine research. Many are validated for use in key applications such as flow cytometry, immunohistochemistry, immunoprecipitation, and Western blotting. Every antibody is backed by our **Worry-free Antibody Trial Program**, allowing you to evaluate any of our antibodies of interest for your specific application or species without risk.

PRODUCT NAME	PRODUCT #
CD163 (human) clonal antibody (K20-T)	ALX-810-213
CD20 (human) clonal antibody (E17-P)	ALX-810-209
CD3 (human) mAb (TR66)	ALX-804-822
CD40 (mouse) mAb (FGK45)	ALX-805-046
CD40L (human) mAb (blocking) (MK13A4)	ALX-805-037
Cytokeratin 1/5/10/14 (human) mAb (34 β E12) (Ready-to-Use)	ENZ-30903
HSP70/HSP72 mAb (C92F3A-5)	ADI-SPA-810
HSP70/HSP72 pAb	ADI-SPA-812
HSP90 mAb (AC88)	ADI-SPA-830
HSP90 α mAb (9D2)	ADI-SPA-840
IL-33 mAb (Nessy-1)	ALX-804-840
LAG-3 (human) mAb (17B4) (FITC conjugate)	ALX-804-806F
Mono- and Poly-ubiquitinated Conjugates mAb (FK2)	BML-PW8810
p62 (human) pAb	BML-PW9860

More antibodies at
www.enzolifesciences.com/antibodies

MODULATE HOST RESPONSE

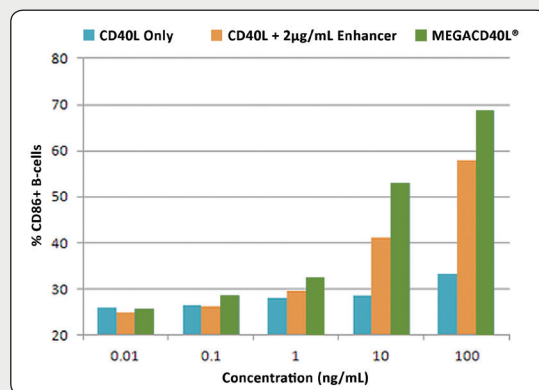
MEGACD40L[®] Protein (soluble)(human)(recombinant)

High-activity, high-purity CD40L construct for co-stimulatory activation of an immune response.

- Improved stability and enhanced activity, when compared to CD40L alone or with enhancers
- Superior purity eliminates experimental artifacts
- 100-fold lower endotoxin levels than comparable products
- Reliable results through consistent lot-to-lot performance

PRODUCT NAME	PRODUCT #
MEGACD40L [®] Protein (soluble) (human) (recombinant)	ALX-522-110
MEGACD40L [®] (soluble) (mouse) (recombinant)	ALX-522-120
CD40L (soluble) (human) (recombinant)	ALX-522-015
CD40L (soluble) (mouse) (recombinant)	ALX-522-070
Enhancer for Ligands	ALX-804-034

Enhance Immune Activation with MEGACD40L[®] Protein



B cell lymphocyte activation by various CD40L constructs. PBMCs were treated for 48 hours in media containing serially diluted CD40L, CD40L + 2 µg/mL Enhancer, or MEGACD40L[®] Protein. Cells were dual-stained with α-human CD19-PE and α-human CD86-APC and analyzed by flow cytometry. Data are presented as the percent of CD19+ B cells that co-stain as CD86+.

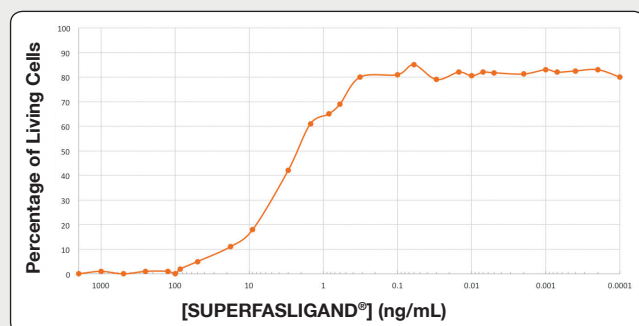
SUPERFASLIGAND[®] (soluble)(human)(recombinant)

Fas ligand with improved stability providing significantly enhanced immune activation.

- Features an N-Terminus linker shown to improve stability
- Enhanced immune activation compared to other recombinant ligands
- Mimics glycosylation of native human FasL

PRODUCT NAME	PRODUCT #
FasL [CD95L, CD178] (soluble) (human) (recombinant)	ALX-522-001
SUPERFASLIGAND [®] (soluble) (human) (recombinant)	ALX-522-020
SUPERKILLERTRAIL [®] (soluble) (human) (recombinant)	ALX-201-115
SUPERKILLERTRAIL [®] (soluble) (mouse) (recombinant)	ALX-201-130
TNF-α (human) (recombinant) (cell culture grade)	ALX-520-002

Induction of Cell Death with SUPERFASLIGAND[®] Protein



Jurkat cells were incubated with the indicated concentration of SUPERFASLIGAND[®] and cell proliferation was assayed. Percent viability was determined in comparison to control wells with no SUPERFASLIGAND[®].

Small Molecule Chemistry

With more than 3,000 biologically characterized small molecules and the industry's most diverse collection of compound libraries, Enzo's ultra-high purity compounds and proteins can be used to maximize yield via modulation of autophagy, proteases, and osmotic stress.

PRODUCT NAME	PRODUCT #
25-Hydroxyvitamin D3	BML-DM100
KRN7000	BML-SL232
MALP-2	ALX-162-027
R-848 (Resiquimod)	ALX-420-038

COMPOUND LIBRARIES	PRODUCT #
SCREEN-WELL [®] Cardiotoxicity Library	BML-2850
SCREEN-WELL [®] Hepatotoxicity Library	BML-2851
SCREEN-WELL [®] Hematotoxicity Library	BML-2852
SCREEN-WELL [®] FDA Approved Drug Library	BML-2843
SCREEN-WELL [®] Mytotoxicity Library	ENZ-LIB101
SCREEN-WELL [®] Nephrotoxicity Library	ENZ-LIB100

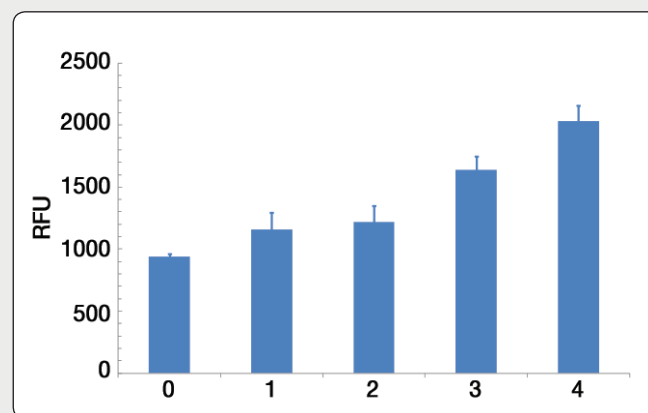
OPTIMIZE AND MONITOR PRODUCT INTEGRITY

PROTEOSTAT® Protein Aggregation Assay

- Simple, sensitive, homogeneous fluorescent microplate assay
- Provides a convenient, complementary orthogonal method for cross-validation of instrumentation-intensive techniques
- Useful assay to troubleshoot protein damage, from protein development through manufacturing stages
- High-throughput method for monitoring protein stability when used with flow cytometry

PRODUCT NAME	PRODUCT #
PROTEOSTAT® Protein Aggregation Assay	ENZ-51023
PROTEOSTAT® Protein Aggregation Standards	ENZ-51039

Monitoring Freeze-Thaw Cycle Induced Aggregation in Bulk Proteins



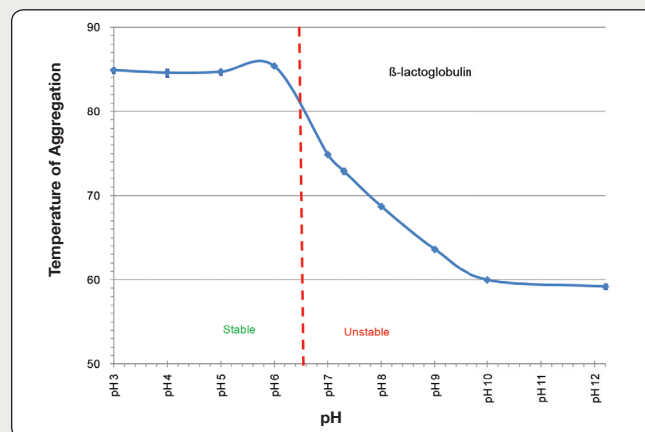
Freeze-thaw cycle induced aggregation: 2 mg/mL of Rabbit anti-Goat IgG in 100 mM citrate, pH 2.7

PROTEOSTAT® Thermal Shift Stability Assay

- A simple, sensitive, homogeneous fluorescence assay, using the aggregation temperature to optimize protein stability conditions
- Accelerated screening for protein stability as a function of pH, ionic strength, and concentration
- Able to detect ligand binding, even without a prior knowledge of the protein's function or ligand binding site
- Works over a wide temperature, pH and ionic strength range and compatible with commonly used buffers and excipients

PRODUCT NAME	PRODUCT #
PROTEOSTAT® Thermal Shift Stability Assay	ENZ-51027
PROTEOSTAT® Protein Refolding & Aggregation Sensing Kit	ENZ-51040

Determining Optimal Storage pH for a Protein of Interest



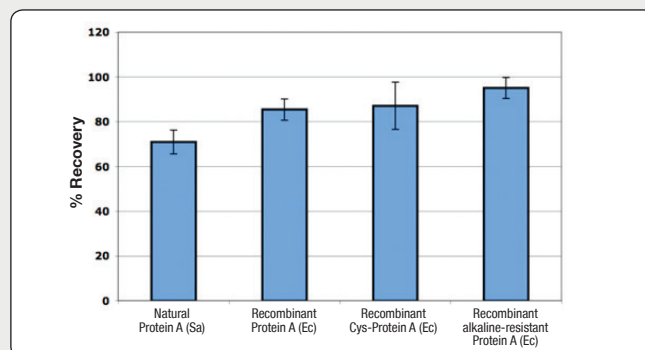
The PROTEOSTAT® Thermal Shift Stability Assay can detect the optimal storage pH for a protein of interest. As illustrated, β -lactoglobulin was incubated with 40 mM buffer of pH ranging from 3 to 12 in the presence of 150 mM sodium chloride. At pH 7 and above, the stability of β -lactoglobulin decreases, as indicated by the lower aggregation temperature. Published studies have shown that the protein undergoes a conformational transition at this pH value (Blanch *et al.* (1997) Prot. Sci. 8:1362).

Protein A ELISA Kit

- Detects 1 ppm of Protein A residuals in human IgG
- Recognizes 4 different Protein A variants
- Useful for contamination analysis and measurement of Protein A variants in monoclonal antibody preparations
- Produces results in less than 3 hours with low cost-per-test

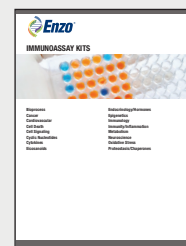
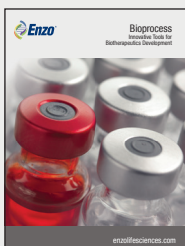
PRODUCT NAME	PRODUCT #
CHO Host Cell Protein ELISA Kit	ENZ-KIT128
<i>E. coli</i> Host Cell Protein ELISA Kit	ENZ-KIT127
PEGylated Protein ELISA Kit	ADI-900-213
Protein A ELISA Kit	ADI-900-057

Recognizes All Commonly Used Protein A Constructs



Assay recognition of different Protein A constructs, post boiling. Resulting concentrations were interpolated from kit standard curve. Percent recovery calculated by dividing observed concentration by expected concentration.

You may also be interested in:



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Put our experience to work for you!

Our broad range of scientific expertise and industry-proven manufacturing capabilities enables us to provide a comprehensive set of innovative tools for vaccine discovery and development!