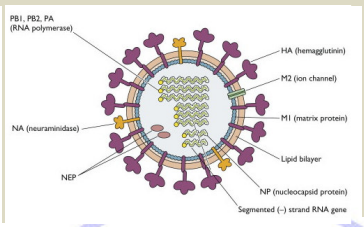
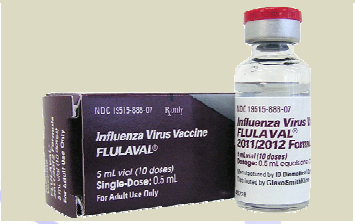
Influenza A Vaccines Antibody ELISA Kits, Recombinant Proteins, Peptides and Antibodies

Influenza A virus causes influenza in birds and some mammals, and is the only species of influenza virus A. Some isolates of influenza A virus cause severe disease both in domestic poultry and, rarely, in humans. Occasionally, viruses are transmitted from wild aquatic birds to domestic poultry, and this may cause an outbreak or give rise to human influenza pandemics. The physical structure of all influenza A viruses is similar. The Influenza A virus genome is contained on eight single (non-paired) RNA strands that code for eleven proteins (HA, NA, NP, M1, M2, NS1, NEP, PA, PB1, PB1-F2, PB2). The several subtypes are labeled according to an H number (for the type of hemagglutinin) and an N number (for the type of neuraminidase). There are 17 different H antigens (H1 to H17) and nine different N antigens (N1 to N9). Influenza A virus subtype H5N1, also known as "bird flu", A(H5N1) or simply H5N1, is a subtype of the influenza A virus which can cause illness in humans and many other animal species. It is epizootic (an epidemic in nonhumans) and panzootic (affecting animals of many species, especially over a wide area), killing tens of millions of birds and spurring the culling of hundreds of millions of others to stem its spread. Influenza viruses have a relatively high mutation rate that is characteristic of RNA viruses. The ability of various influenza strains to show species-selectivity is largely due to variation in the hemagglutinin genes that can significantly alter the ability of viral hemagglutinin proteins to bind to receptors on the surface of host cells. The influenza vaccination, also known as a **flu shot**, is an annual vaccination using a vaccine specific for a given year to protect against the highly variable influenza virus.





The annual flu (also called "seasonal flu" or "human flu") in the U.S. "results in approximately 36,000 deaths and more than 200,000 hospitalizations each year. In addition to this human toll, influenza is annually responsible for a total cost of over $10 billion in the U.S. The influenza virus constantly mutates, forcing scientists to play catch-up and produce a new seasonal vaccine each year. The annually updated, **trivalent influenza vaccine** consists of hemagglutinin (HA) surface glycoprotein components from influenza H3N2, H1N1, and B influenza viruses. In 20112, scientist discovered a "**super antibody (FI6)**" against the hemeagglutin protein that is common to most influenza strains. It is hoped that this protein may be a candidate to make "**universal vaccine**". In 2008 Acambis announced work on a universal flu vaccine (**ACAM-FLU-ATM**) based on the less variable M2 protein component of the flu virus shell. The Wistar Institute received a patent for using "a variety of peptides" in a flu vaccine. In 2010, NIAID of the U.S. NIH announced a breakthrough; the effort targets the stem, which mutates less often than the head of the virus. DNA vaccines such as **VGX-3400X** (aimed at multiple H5N1 strains) contain DNA fragments (plasmids). Inovios SynCon DNA vaccines include H5N1 and H1N1 subtypes. Some universal flu vaccines have started early stage clinical trials. BiondVax are targeting the less variable stalk of the **haemagglutinin molecule with Multimeric-001**. This is aimed at type A (inc H1N1) and Type B influenza and has started a phase IIa study. Dynavax have developed a **vaccine N8295** based on two highly conserved antigens NP and M2e and their TLR9 agonist, and started clinical trials in June 2010. ITS's **fp01** includes 6 peptide antigens to highly conserved segments of the PA, PB1, PB2, NP & M1 proteins, and has started phase I trials.

Fluzone is a split-virus vaccine that is produced by chemical disruption of the influenza virus, it is incapable of causing influenza. Fluzone Intradermal is formulated to contain HA of each of the following three influenza strains recommended for the 2012-2013 influenza season: A/California/07/2009 NYMC X-179A (H1N1), A/Victoria/361/2011 IVR-165 (H3N2) and B/Texas/6/2011 (a B/Wisconsin/1/2010-like virus). **FLUARIX** is a vaccine prepared from influenza viruses (45 micrograms (mcg) hemagglutinin (HA) per 0.5-mL dose, in the recommended ratio of 15 mcg HA of each of the following 3 strains: A/California/7/2009 NYMC X-181 (H1N1), A/Victoria/210/2009 NYMC X-187 (H3N2) (an A/Perth/16/2009-like virus), and B/Brisbane/60/2008) propagated in embryonated chicken eggs. **FLUVIRIN®** is an inactivated influenza virus vaccine indicated for immunization of persons 4 years of age and older against influenza virus disease caused by influenza virus subtypes A and type B contained in the vaccine. **FLULAVAL** 2012/2013- influenza a virus a/california/7/2009 x-179a (h1n1) antigen, influenza a virus a/victoria/361/2011 ivr-165 (h3n2) antigen and influenza b virus b/hubei-wujiagang/158/2009 bx-39 antigen suspension.

ADI has developed antibody ELISA kits to determine the efficacy of existing **influenza A vaccines** and test new vaccines. ADI is further expanding the antibody ELISAs to measure IgG (and IgG1, IgG2a, IgG3, IgG4) and IgM classes.

Influenza A/B Vaccine Related ELISA kits

Items Description	Species	Antibody Type IgG Cat#	Antibody Type IgM Cat#	Antibody Type IgA Cat#
Influenza A Virus Vaccine ELISA kits	Rabbit	920-070-H1G		
	Swine/Pig	920-010-PAG	920-020-PAM	920-030-PAA
	Human	920-040-HAG	920-050-HAM	920-060-HAA
	Chicken	920-100-AIV	920-105-AIM	
	Chicken H5N1	920-300-H51		
Influenza B Virus Vaccine ELISA kits	Human	920-400-HBG		
	Mouse	920-500-MBG		
	Rabbit	920-605-RBG	920-610-RBM	

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@atzlabs.com Website: www.atzlabs.com

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Cat#	Description	Product Type
AR-232-U	H5 Avian Influenza Virus (HAS15-5), RNA Aptamer, unlabeled	RNA Aptamers
AR-242-U	Human Influenza A virus H3N2 (P30-10-16), RNA Aptamer, unlabeled	RNA Aptamers
H11N2-01-A	Anti-Hemagglutinin HA1 Influenza A Virus (H11N2; A/duck/Yangzhou/906/2002) IgG	Pure protein
H11N2-01-C	Recombinant Purified Hemagglutinin Influenza A Virus (H11N2; A/duck/Yangzhou/906/2002) control	Pure protein
H1N1-01-A	Anti-Hemagglutinin Influenza A Virus H1N1 H1 (H1N1) (A/New Caledonia/20/99) IgG	Pure protein
H1N1-01-C	Recombinant Purified Hemagglutinin Influenza A Virus H1N1 (A/New Caledonia/20/99) protein control	Pure protein
H1N1-01-R-10	Recombinant Purified Hemagglutinin Influenza A Virus H1N1 (A/New Caledonia/20/99) protein	Pure protein
H1N1-02-A	Anti-Hemagglutinin Influenza A Virus H1N1 H1 (Pan H1N1 reacts with multiple strains of H1N1) IgG	Pure protein
H5N11-C	Recom Purified Hemagglutinin Influenza A Virus H5N1 (A/chicken/India/NIV33487/2006) (17-531aa)	Pure protein
H5N11-S	Rabbit Anti-Hemagglutinin Influenza A Virus H5N1 (A/chicken/India/NIV33487/2006) (17-531aa) protein antiserum	Antibodies
H5N12-S	Mouse Anti-Hemagglutinin Influenza A Virus H5N1 (A/chicken/India/NIV33487/2006) (17-531aa) protein antiserum	Antibodies
H5N15-R-10	Rec. Purified Hemagglutinin Influenza A Virus H5N1 (A/chicken/India/NIV33487/2006) (17-531aa), His-tag	Pure protein
H5N15-R-100	Rec. Purified Hemagglutinin Influenza A Virus H5N1(A/chicken/India/NIV33487/2006) (17-531aa), His-tag	Pure protein
HIB12-S	Rabbit Anti-Haemophilus influenzae, Type B (heat killed, whole bacteria) antiserum	Antibodies
INFA11-M	Mouse Anti-Influenza A virus IgG, aff pure	Antibodies
INFB15-M	Mouse Anti-Influenza B IgG, aff pure	Antibodies
MA-20170	Mouse Monoclonal Anti-Human Influenza A virus Nucleoprotein	Antibodies
MA-20171	Mouse Monoclonal Anti-Human Influenza B virus Nucleoprotein	Antibodies
PRPB11-S	Rabbit Anti-Haemophilus influenzae, Type B PRP (Hib-PRP) antiserum	Antibodies
RP-1520	Influenza A Virus (H1N1) Beijing 262/95	Pure protein
RP-1521	Influenza A Virus (H1N1) New Caledonia 20/99 IV 116	Pure protein
RP-1522	Influenza A Virus (H3N2) Shangdong 9/93	Pure protein
RP-1523	Influenza A Virus (H3N2) Kiev 301/94 like /Johannesburg 33/94	Pure protein
RP-1524	Influenza A Virus (H3N2) Panama 2007/99	Pure protein
RP-1525	Influenza A Virus (H1N1) Taiwan 1/86	Pure protein
RP-1526	Influenza B Virus Qingdao 102/91 (purified virus, inactivated)	Virus/inactivated
RP-1527	Influenza B Virus Tokio 53/99 (purified virus, inactivated)	Pure protein
RP-1528	Influenza B Virus Victoria 504/00 (purified 7/6/2011, inactivated)	Pure protein
RP-1591	Influenza B Virus Florida 04/06 (purified virus, inactivated)	Pure protein
RP-1592	Influenza B Virus Malaysia 2506/04 (purified virus, inactivated)	Inactivated Virus
RP-1593	Recombinant Hemagglutinin Influenza B Virus Malaysia 2506/04 (HA full length, insect cells)	Pure protein
RP-638	Recombinant Hemagglutinin Influenza A Virus H1N1 New Caledonia 20/99 (HA full length, Sf9 cells)	Pure protein
RP-639	Recombinant Hemagglutinin Influenza A Virus H1N1 Texas 36/91	Pure protein
RP-640	Recombinant Hemagglutinin Influenza A Virus H7N7 Netherlands 219/03	Pure protein
RP-641	Recombinant Hemagglutinin Influenza A Virus H5N1 Vietnam 1203/04	Pure protein
RP-642	Recombinant Hemagglutinin Influenza A Virus H3N2 New York 55/04 (HA protein full length, Sf9 cells))	Pure protein
RP-643	Recombinant Hemagglutinin Influenza A Virus H3N2 Wyoming 3/03	Pure protein
RP-644	Recombinant Hemagglutinin Influenza A Virus H9N2 Hong Kong 1073/99	Pure protein
RP-645	Recombinant Hemagglutinin Influenza A Virus H1N1 California/04/2009	Pure protein
RP-646	Recombinant Hemagglutinin Influenza B Virus Ohio 01/05 (HA full length, insect cells)	Pure protein
RP-647	Recombinant Hemagglutinin Influenza A Virus H3N2 Wisconsin 67/05	Pure protein
RP-648	Recombinant Hemagglutinin Influenza B Virus Jilin 20/03 (HA full length, insect cells)	Pure protein
SEND21-M	Monoclonal Anti-Parainfluenza virus 3 IgG	Antiserum
SEND22-M	Monoclonal Anti-Parainfluenza virus 2 IgG	Antiserum
SEND23-S	Goat Anti-Sendai (Sev/Parainfluenza virus 2/3) antiserum	Antiserum
SP-53126-5	Influenza HA (307 - 319) (AA: Pro-Lys-Tyr-Val-Lys-Gln-Asn-Thr-Leu-Lys-Leu-Ala-Thr) (MW: 1503.82)	Pure Peptide
SP-56844-5	Influenza HA (518 - 526) (AA: Ile-Tyr-Ser-Thr-Val-Ala-Ser-Ser-Leu) (MW: 940.07)	Pure Peptide
SP-58255-5	Influenza A NP (366 - 374) Strain A/NT/60/68 (AA: Ala-Ser-Asn-Glu-Asn-Met-Asp-Ala-Met) (MW: 982.06)	Pure Peptide
SP-64000-5	Influenza HA (110 - 120) (AA: Ser-Phe-Glu-Arg-Phe-Glu-Ile-Phe-Pro-Lys-Glu) (MW: 1428.62)	Pure Peptide
SP-64021-5	Influenza NP (147 - 155) (AA: Thr-Tyr-Gln-Arg-Thr-Arg-Ala-Leu-Val) (MW: 1107.29)	Pure Peptide
SP-68060-5	Influenza A NP (366 - 374) Strain A/PR/8/35 (AA: Ala-Ser-Asn-Glu-Asn-Met-Glu-Thr-Met) (MW: 1026.12)	Pure Peptide
SP-68061-5	PA (224–233), Influenza (AA: Ser-Ser-Leu-Glu-Asn-Phe-Arg-Ala-Tyr-Val) (MW: 1185.31)	Pure Peptide
SP-83168-5	NS2(114 - 121), Influenza (AA: Arg-Thr-Phe-Ser-Phe-Gln-Leu-Ile) (MW: 1011.20)	Pure Peptide
SP-83170-5	PB1(703 - 711), Influenza (AA: Ser-Ser-Tyr-Arg-Arg-Pro-Val-Gly-Ile) (MW: 1034.19)	Pure Peptide
SP-86614-5	Influenza NP (50 - 57) (AA: Ser-Asp-Tyr-Glu-Gly-Arg-Leu-Ile) (MW: 952.04)	Pure Peptide
SP-86615-5	Influenza NP (482 - 489) (AA: Ser-Asn-Glu-Gly-Ser-Tyr-Phe-Phe) (MW: 949.98)	Pure Peptide
SP-86616-5	Influenza HA (529 - 537) (AA: Ile-Tyr-Ala-Thr-Val-Ala-Gly-Ser-Leu) (MW: 894.04)	Pure Peptide
SP-86617-5	Influenza HA (210 - 219) (AA: Thr-Tyr-Val-Ser-Val-Gly-Thr-Ser-Thr-Leu) (MW: 1027.15)	Pure Peptide
SP-86618-5	Influenza HA (204 - 212) (AA: Leu-Tyr-Gln-Asn-Val-Gly-Thr-Tyr-Val) (MW: 1056.19)	Pure Peptide
SP-86619-5	Influenza HA (110 - 119) (AA: Ser-Phe-Glu-Arg-Phe-Glu-Ile-Phe-Pro-Lys) (MW: 1299.50)	Pure Peptide
SP-86620-5	Influenza A NP (366 - 374) (AA: Ala-Ser-Asn-Glu-Met-Asn-Asp-Ala-Met) (MW: 982.06)	Pure Peptide
SP-86621-1	Influenza A M2 coat protein (22 - 46)	Pure Peptide
SP-88515-1	Hemagglutinin (48-68) / Influenza virus	Pure Peptide

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India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@atzlabs.com Website: www.atzlabs.com