

**R&D for Avian / Pandemic Influenza Vaccines by IFPMA Influenza Vaccine Supply International Task Force (IVS ITF) members**

(Updated 24 January 2006)

Company	Strain	Type	Culture	Adjuvant	Doses (µg)	Trials	Timing	Comments
Baxter	H5N1 wild type (A/Vietnam/1203/2004)	Inactivated whole virion	Cell (Vero)	Alum	3.7 / 7.5 / 15 / 30 / 45	Ph I & II	Starts Q2 2006	
Berna Biotech + Leicester University	H9N2	Inactivated whole virion	Egg	Alum	1.7 / 5 / 15 / 45	Ph II	Starts early 2006	Intramuscular+subcutaneous 2 shots, 3 weeks apart
Berna Biotech + Leicester University	H9N2	Virosomal	Egg	none	1.7 / 5 / 15 / 45	Ph II	Starts early 2006	Intramuscular+subcutaneous 2 shots, 3 weeks apart
Biken	H5N1 (NIBRG-14)	Inactivated whole virion	Egg	Alum	1.7 / 5 / 15	Ph I	Q1-2 2006	Intramuscular+subcutaneous Ph II & III Q3-4 2006
Chiron	H9N2 (G9/PR8)	Inactivated surface antigen	Egg	MF59	3.75 / 7.5 / 15 / 30			Unpublished results
Chiron	H5N1	Inactivated surface antigen	Egg	MF59	7.5 / 15	Ph II	2006	
Chiron	H5N3 (A/duck/Singapore/1997, NIB 40)	Inactivated surface antigen	Egg	MF59	7.5 / 15 / 30	Yes	Done	<i>Lancet</i> 2001 357: 1937-1943 <i>Vaccine</i> 2003 21: 1687-1693 <i>JID</i> 2005 191: 1210-1215
Chiron	H5N1	Inactivated surface antigen	Egg	MF59	7.5 / 15	Proof of concept	Starts early 2006	
Chiron	H5N1	Inactivated surface antigen	Egg	Alum	7.5 / 15 / 30 / 60	Proof of concept	Starts early 2006	
CSL	H5N1 (NIBRG-4)	Split virus inactivated	Egg	AlPO <sub>4</sub>	7.5 / 15	Yes	Results Feb 2006	2 <sup>nd</sup> trial to finish end 2006, depending on results of 1st
Denka Seiken	H5N1 (NIBRG-14)	Inactivated whole virion	Egg	Alum	1.7 / 5 / 15	Ph I	Q1-2 2006	Intramuscular+subcutaneous Ph II & III Q3-4 2006

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GSK Biologicals	H2N2	Whole virion	Egg	Alum	1.9 / 3.8 / 7.5 / 15			Mock-up file submitted 21 Dec 2005
GSK Biologicals	H9N2	Whole virion	Egg	Alum	1.9 / 3.8 / 7.5 / 15			Mock-up file submitted 21 Dec 2005
GSK Biologicals	H5N1	Whole virion	Egg	Alum	1.9 / 3.75 / 7.5 / 15			Ex-ID Biomedical
Kaketsuken	H5N1 (NIBRG-14)	Inactivated whole virion	Egg	Alum	1.7 / 5 / 15	Ph I	Q1-2 2006	Subcutaneous Ph II & III Q3-4 2006
Kitasato Institute	H5N1 (NIBRG-14)	Inactivated whole virion	Egg	Alum	1.7 / 5 / 15	Ph I	Q1-2 2006	Intramuscular+subcutaneous Ph II & III Q3-4 2006
MedImmune	H5N1 A/Vietnam/1203/2004	Live attenuated	Egg	none	Intranasal	yes	Starts 2006	
MedImmune	H5N1 A/HongKong/492/1997	Live attenuated	Egg	none	Intranasal	yes	Starts 2006	
MedImmune	H9N2	Live attenuated	Egg	none	Intranasal	Ph I	Ended 2005	
MedImmune	H5N1	Live attenuated	Cell	none	Intranasal	Proof of concept	2006	
Nobilon	H5N1 (NIBRG-14)	Whole virion inactivated	Cell	Alum		yes	Starts 2 <sup>nd</sup> half 2006	
sanofi pasteur	H5N1 (France)	Split virus inactivated	Egg	Alum	7.5 / 15 / 30	Ph II	2006	Ph I completed 2005
sanofi pasteur	H5N1 (US - NIAID)	Split virus inactivated	Egg	none	7.5 / 15 / 45 / 90	Ph I elderly	ongoing	Ph I adult completed 2005
sanofi pasteur	H5N1 (US - NIAID)	Split virus inactivated	Egg	Alum	7.5 / 15 / 45	Ph I adult	2006	
sanofi pasteur	H7N7 (US - NIAID)	Split virus inactivated	Egg	Alum		Ph I adult	2006	

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sanofi pasteur	H7N1 (EU - Flupan)	Split virus inactivated	Cell	Alum		Ph I adult	2006	Trial under Flupan sponsorship
Solvay	H5N1 (NIBRG-14)	Inactivated subunit	Egg	Alum		yes	Starts Q3 2006	
Solvay	H5N1 (NIBRG-14)	Inactivated subunit	Cell	Alum		yes	Starts Q3 2006	

**About the Pandemic R&D table:** The table lists all the prototype avian / pandemic influenza vaccines under development by IFPMA Influenza Vaccine Supply International Task Force member companies. As such, it covers the vast majority of R&D projects being undertaken in this field. The number of projects and the commitment of these companies to undertake the necessary clinical trials underline the vaccine industry's commitment to help minimise the global health impact of avian influenza and any related pandemic influenza.

**About IFPMA ([www.ifpma.org](http://www.ifpma.org)):** The International Federation of Pharmaceutical Manufacturers & Associations is a non-profit, non-governmental Organization (NGO) representing national industry associations and companies from both developed and developing countries. Member companies of the IFPMA are research-based pharmaceutical, biotech and vaccine manufacturers.

**About IFPMA Influenza Vaccine Supply International Task Force:** The IFPMA Influenza Vaccine Supply Interventional Task Force was established in February 2002, bringing together research based influenza vaccine manufacturers from Australia, Europe, Japan and North America. The Task Force works within the constraints of anti-trust law to address advocacy, communication, policy, regulatory, scientific and technical issues related to inter-pandemic and pandemic influenza vaccines. Members manufacturers are: Baxter Vaccines, Berna Biotech, Biken, Chiron Vaccines, CSL Ltd, Crucell, Denka Seiken, GlaxoSmithKline Biologicals (including ID Biomedical), Kaketsuken, Kitasato Institute, MedImmune, Nobilon, sanofi pasteur, Sanofi Pasteur MSD and Solvay Pharmaceuticals.

A backgrounder entitled Preparing for pandemic influenza vaccination can be found at ([http://www.ifpma.org/pdf/pandemic\\_backgrounder\\_23Jan06.pdf](http://www.ifpma.org/pdf/pandemic_backgrounder_23Jan06.pdf))

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