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<b>Study No.:</b> 113809 (FLU D-PAN H1N1-024)
<b>Title:</b> Immunological non-inferiority between two process-manufactured influenza vaccines in adults aged 18 to 60 years.
<b>Rationale:</b> The aim of this study was to assess the immunogenicity of a Flu H1N1 vaccine containing the A/California/7/2009 (H1N1) v-like strain manufactured with a new procedure compared to the initial process-manufactured vaccine. H1N1 vaccine: GlaxoSmithKline (GSK) Biologicals' Pandemic influenza vaccine comprising A/California/7/2009 (H1N1)v-like strain. This summary presents results up to Day 42 and will be updated when additional data become available.
<b>Phase:</b> III
<b>Study Period:</b> 14 October 2009 to 12 February 2010
<b>Study Design:</b> Double-blind, randomized (1:1:1:1) study with 4 parallel groups.
<b>Centres:</b> 5 centres in Germany
<b>Indication:</b> Immunization against A/California/7/2009 (H1N1)v-like influenza.
<b>Treatment:</b> The study groups were as follows: <ul style="list-style-type: none"> <li>• D-INI-1D Group: subjects received 1 dose (at Day 0) of the initial process-manufactured H1N1 vaccine.</li> <li>• D-INI-2D Group: subjects received 2 doses (at Days 0 and 21) of the initial process-manufactured H1N1 vaccine.</li> <li>• D-NEW-1D Group: subjects received 1 dose (at Day 0) of the new process-manufactured H1N1 vaccine.</li> <li>• D-NEW-2D Group: subjects received 2 doses (at Days 0 and 21) of the new process-manufactured H1N1 vaccine.</li> </ul> Vaccines were administered intramuscularly in the deltoid region of the non-dominant arm (first dose) and of the dominant arm (second dose) for the groups receiving 2 doses.
<b>Objectives:</b> To evaluate the immunological non-inferiority (in terms of vaccine-homologous virus H1N1 Haemagglutinin Inhibition [HI] antibody geometric mean titres [GMTs]) of the new process-manufactured A/California/7/2009 (H1N1)v-like antigen compared to the initial process-manufactured A/California/7/2009 (H1N1)v-like antigen, 21 days after first vaccination in healthy subjects aged 18 to 60 years. <i>Criterion for non-inferiority:</i> <i>Non-inferiority is reached if the upper limit of the two-sided 95% Confidence Interval (CI) for the ratio of GMT between the initial process-manufactured vaccine and (over) new process-manufactured vaccine is less than or equal to 2 in terms of Haemagglutination Inhibition (HI) antibody titre against A/California/7/2009 (H1N1)v-like antigen.</i>
<b>Primary Outcome/Efficacy Variable:</b> Humoral immune response in terms of HI antibodies in all subjects against A/California/7/2009 (H1N1) v-like antigen <ul style="list-style-type: none"> <li>• GMTs 21 days after first dose of vaccine (Day 21)</li> </ul>
<b>Secondary Outcome/Efficacy Variable(s):</b> <i>Immunogenicity#</i> <ul style="list-style-type: none"> <li>• Humoral immune response in terms of HI antibodies <ul style="list-style-type: none"> <li>○ In all subjects against A/California/7/2009 (H1N1) v-like antigen: <ul style="list-style-type: none"> <li>▪ GMTs and seropositivity rates at Days 0, 21, 42, 182, 364</li> <li>▪ Seroconversion rate (SCR)* at Days 21, 42, 182, 364</li> <li>▪ Seroprotection rate (SPR**) at Days 0, 21, 42, 182, 364</li> <li>▪ Geometric Mean Fold Rise (GMFR***) at Days 21, 42, 182, 364</li> </ul> </li> </ul> </li> </ul> <p>*SCR is defined as the percentage of vaccinees that have either a pre- vaccination titre &lt; 1:10 and a post-vaccination titre ≥ 1:40 or a pre vaccination titre ≥ 1:10 and at least a four-fold increase in post-vaccination titre. **SPR is defined as the percentage of vaccinees with a serum HI titre ≥ 1:40, that usually is accepted as indicating protection. ***GMFR (also known as Seroconversion Factor [SCF]) is defined as the fold increase in serum HI GMTs post-vaccination compared to pre-vaccination.</p> <ul style="list-style-type: none"> <li>• Humoral immune response in terms of neutralizing antibodies<sup>§</sup> <ul style="list-style-type: none"> <li>○ In a subset of subjects against A/California/7/2009 (H1N1) v-like antigen: <ul style="list-style-type: none"> <li>▪ GMTs at Days 0, 21, 42, 182, 364</li> <li>▪ SCR* at Days 21, 42, 182, 364</li> </ul> </li> </ul> </li> </ul> <p>*SCR is defined as the percentage of vaccinees that have a four-fold increase between pre- and post-vaccination titres.</p>

§ Data not available at the time of writing the CTRS. The document will be updated with availability of the data.

**Safety#**

- Solicited local and general symptoms
  - Occurrence, duration and intensity of each solicited local adverse event (AE) during the 7-day follow-up period (i.e. day of vaccination and 6 subsequent days) after each vaccination.
  - Occurrence, intensity, duration and relation to vaccination of each solicited general AE during a 7-day follow-up period (i.e. day of vaccination and 6 subsequent days) after each vaccination.
- Unsolicited adverse events
  - Occurrence, intensity and relationship to vaccination of unsolicited AEs within 21 days after the first vaccination (Day 0 – Day 20) and up to 63 days after the second vaccination for the 2 groups with 2 vaccination doses (Day 21 – Day 83), according to the Medical Dictionary for Regulatory Activities (MedDRA) classification.
- Potential Immune-Mediated-Diseases (pIMDs).
  - Occurrence and relationship to vaccination of pIMDs during the entire study period (up to Day 364). pIMDs are a subset of AEs that include both clearly autoimmune diseases and also other inflammatory and/or neurologic disorders which may or may not have an autoimmune etiology.
- Serious adverse events (SAEs).
  - Occurrence and relationship to vaccination of SAEs during the entire study (up to Day 364).

# This CTRS presents the data up to Day 42. The study is ongoing and the CTRS will be updated for results from later time points with availability of the data.

**Statistical Methods:**

Analyses were performed on the Total Vaccinated cohort and on the According-To-Protocol (ATP) cohort for immunogenicity.

- The Total Vaccinated cohort included all subjects with at least 1 vaccine administration documented.
- The ATP cohort for immunogenicity included all eligible subjects, who met all inclusion criteria and had no exclusion criteria, who received at least 1 dose of study vaccine, had not received a vaccine not specified or forbidden in the protocol and for whom assay results were available for antibodies against H1N1 antigen.

*Analysis of immunogenicity*

The analysis was based on the ATP cohort for immunogenicity.

The 95% CIs of the GMT ratio (initial process-manufactured H1N1 vaccine over new process-manufactured H1N1 vaccine) for HI antibodies against A/California/7/2009 (H1N1)v-like strain, 21 days after first vaccination was computed. The objective of non-inferiority of new process-manufactured H1N1 vaccine compared to initial process-manufactured H1N1 vaccine was reached if the upper limits of two-sided 95% CIs for the GMT ratio (initial process-manufactured H1N1 vaccine over new process-manufactured H1N1 vaccine) were less than and equal to 2 in terms of HI antibodies against A/California/7/2009 (H1N1)v-like antigen.

In terms of humoral response, GMTs and seropositivity, SCR, SPR and SCF were calculated with 95 % CI for all the groups at Day 21 and Day 42 after vaccination.

*Analysis of safety*

The analysis was based on the Total Vaccinated cohort.

The incidence of solicited local and general symptom occurring during the solicited follow-up period following each vaccination was tabulated during the 7-day solicited follow-up period (Day 0 to Day 6) with exact 95% CI for each treatment group and for all subjects aged 18 to 60 years. The same tabulations were performed for Grade 3 symptoms and for solicited general symptoms assessed by the investigators as related to vaccination. The duration of each solicited local and general symptoms during the 7-day (Day 0-6) solicited follow-up period was tabulated.

The percentage of subjects with at least one report of an unsolicited AE classified by MedDRA preferred terms and reported up to 42 days after first dose was tabulated for each treatment group. The same tabulation was performed for Grade 3 unsolicited AEs and for unsolicited AEs that were assessed by the investigators as possibly related to vaccination. SAEs and pIMDs were summarized up to Day 42.

**Study Population:** Male or female subjects aged 18 to 60 years at the time of first vaccination were enrolled in the study if results from a baseline medical assessment by history and physical were satisfactory and that subject had a stable health status. If the subject was female and of childbearing potential, she had to be abstinent or to have used contraceptive precautions for 30 days prior to vaccination; she had to have a negative pregnancy test at study entry and had to agree to continue contraceptive precautions for 2 months after completion of the vaccination series. Written informed consent was obtained from the subject prior to study entry.

Number of subjects	D-NEW-1D Group	D-NEW-2D Group	D-INI-1D Group	D-INI-2D Group
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Planned, N	75	75	75	75						
Randomised, N (Total Vaccinated cohort)	76	73	76	75						
Completed at Day 42, n (%)	76 (100)	73 (100)	76 (100)	75 (100)						
Total Number Subjects Withdrawn, n (%)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)						
Withdrawn due to Adverse Events, n (%)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)						
Withdrawn due to Lack of Efficacy, n (%)	Not applicable	Not applicable	Not applicable	Not applicable						
Withdrawn for other reasons, n (%)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)						
<b>Demographics</b>	<b>D-NEW-1D Group</b>	<b>D-NEW-2D Group</b>	<b>D-INI-1D Group</b>	<b>D-INI-2D Group</b>						
N (Total Vaccinated cohort)	76	73	76	75						
Females:Males	42:34	39:34	43:33	38:37						
Mean Age, years (SD)	39.4 (13.02)	40.9 (12.20)	40.5 (12.45)	38.6 (12.10)						
White - Caucasian / European heritage, n (%)	76 (100)	73 (100)	76 (100)	74 (98.7)						
<b>Primary Efficacy Results:</b> Adjusted GMT ratios between D-INI and D-NEW for HI antibodies against Flu A/CAL/7/09 (H1N1) at Day 21 (ATP cohort for immunogenicity)										
<b>Adjusted GMT ratio</b>										
<b>95% CI</b>										
<b>Group description</b>	<b>N</b>	<b>Adjusted GMT</b>	<b>Group description</b>	<b>N</b>	<b>Adjusted GMT</b>	<b>Ratio order</b>	<b>Value</b>	<b>LL</b>	<b>UL</b>	
D-INI-1D	70	421.6	D-NEW-1D	74	397.5	D-INI-1D /D-NEW-1D	1.06	0.77	1.46	
D-INI-2D	74	453.9	D-NEW-2D	72	386.8	D-INI-2D /D-NEW-2D	1.17	0.86	1.61	
D-INI	144	437.9	D-NEW	146	392.2	D-INI /D-NEW	1.12	0.89	1.40	
Adjusted GMT = geometric mean antibody titre adjusted for baseline titre N = Number of subjects with both pre- and post-vaccination results available 95% CI = 95% confidence interval for the adjusted GMT ratio; LL = lower limit, UL = upper limit Criterion for non-inferiority: upper limit of the two-sided 95% Confidence Interval (CI) for the ratio of GMT less than or equal to 2										
<b>Primary Efficacy Results:</b> Seropositivity rates and GMTs for HI antibodies against Flu A/CAL/7/09 (ATP cohort for immunogenicity)										
<b>≥ 1:10</b>										
<b>GMT*</b>										
<b>95% CI</b>										
<b>Antibody against</b>	<b>Group</b>	<b>Timing</b>	<b>N</b>	<b>n</b>	<b>%</b>	<b>LL</b>	<b>UL</b>	<b>value</b>	<b>LL</b>	<b>UL</b>
Flu A/CAL/7/09	D-NEW-1D	PRE	74	28	37.8	26.8	49.9	8.6	7.0	10.6
		PI(D21)*	74	74	100	95.1	100	323.0	253.4	411.8
		PII(D42)	74	74	100	95.1	100	226.4	176.8	289.8
	D-NEW-2D	PRE	64	23	35.9	24.3	48.9	8.0	6.7	9.6
		PI(D21)*	64	64	100	94.4	100	334.2	267.9	416.9
		PII(D42)	64	64	100	94.4	100	470.0	387.9	569.6
	D-INI-1D	PRE	71	30	42.3	30.6	54.6	8.9	7.2	11.0
		PI(D21)*	69	69	100	94.8	100	341.5	261.7	445.6
		PII(D42)	71	71	100	94.9	100	268.4	206.2	349.3
	D-INI-2D	PRE	63	22	34.9	23.3	48.0	8.4	6.8	10.3
		PI(D21)*	63	63	100	94.3	100	398.9	294.8	539.7
		PII(D42)	62	62	100	94.2	100	676.8	564.7	811.3
GMT = geometric mean antibody titre calculated on all subjects N = number of subjects with available results n/% = number/percentage of subjects with titre within the specified range 95% CI = 95% confidence interval; LL = Lower Limit, UL = Upper Limit PRE = Pre-vaccination Day 0 PI(D21) = Post-vaccination Day 21 PII(D42) = Post-vaccination Day 42 * Primary outcome variable										

<b>Secondary Outcome Variable(s):</b> SCR for HI antibodies against Flu A/CAL/7/09 at Day 21 and Day 42 (ATP cohort for immunogenicity)							
				<b>SCR</b>			
				<b>95% CI</b>			
<b>Antibody against</b>	<b>Group</b>	<b>Timing</b>	<b>N</b>	<b>n</b>	<b>%</b>	<b>LL</b>	<b>UL</b>
Flu A/CAL/7/09	D-NEW-1D	PI(D21)	74	71	95.9	88.6	99.2
		PII(D42)	74	68	91.9	83.2	97.0
	D-NEW-2D	PI(D21)	64	62	96.9	89.2	99.6
		PII(D42)	64	62	96.9	89.2	99.6
	D-INI-1D	PI(D21)	69	65	94.2	85.8	98.4
		PII(D42)	71	65	91.5	82.5	96.8
	D-INI-2D	PI(D21)	63	61	96.8	89.0	99.6
		PII(D42)	62	62	100	94.2	100
<p>Seroconversion defined as:  For initially seronegative subjects, antibody titre <math>\geq</math> 1:40 after vaccination  For initially seropositive subjects, antibody titre after vaccination <math>\geq</math> 4 fold the pre-vaccination antibody titre  N = Number of subjects with pre- and post-vaccination results available  n/% = Number/percentage of seroconverted subjects  95% CI = 95% confidence interval, LL = Lower Limit, UL = Upper Limit  PI(D21) = Post-vaccination Day 21  PII(D42) = Post-vaccination Day 42</p>							
<b>Secondary Outcome Variable(s):</b> SPR for HI antibodies against Flu A/CAL/7/09 at Day 0, Day 21 and Day 42 (ATP cohort for immunogenicity)							
				<b>SPR</b>			
				<b>95% CI</b>			
<b>Antibody against</b>	<b>Group</b>	<b>Timing</b>	<b>N</b>	<b>n</b>	<b>%</b>	<b>LL</b>	<b>UL</b>
Flu A/CAL/7/09	D-NEW-1D	PRE	74	6	8.1	3.0	16.8
		PI(D21)	74	73	98.6	92.7	100
		PII(D42)	74	71	95.9	88.6	99.2
	D-NEW-2D	PRE	64	4	6.3	1.7	15.2
		PI(D21)	64	64	100	94.4	100
		PII(D42)	64	64	100	94.4	100
	D-INI-1D	PRE	71	6	8.5	3.2	17.5
		PI(D21)	69	67	97.1	89.9	99.6
		PII(D42)	71	68	95.8	88.1	99.1
	D-INI-2D	PRE	63	2	3.2	0.4	11.0
		PI(D21)	63	62	98.4	91.5	100
		PII(D42)	62	62	100	94.2	100
<p>N = Number of subjects with available results  n/% = Number/percentage of seroprotected subjects (HI titre <math>\geq</math> 1:40)  95% CI = 95% confidence interval, LL = Lower Limit, UL = Upper Limit  PRE= Pre-vaccination Day 0  PI(D21)= Post-vaccination Day 21  PII(D42) = Post-vaccination Day 42</p>							
<b>Secondary Outcome Variable(s):</b> SCF for HI antibodies against Flu A/CAL/7/09 at Day 21 and Day 42 (ATP cohort for immunogenicity)							
				<b>SCF</b>			
				<b>95% CI</b>			
<b>Antibody against</b>	<b>Group</b>	<b>Timing</b>	<b>N</b>	<b>Value</b>	<b>LL</b>	<b>UL</b>	
Flu A/CAL/7/09	D-NEW-1D	PI(D21)	74	37.4	28.8	48.6	
		PII(D42)	74	26.2	20.2	33.9	
	D-NEW-2D	PI(D21)	64	41.8	31.5	55.3	
		PII(D42)	64	58.7	44.6	77.3	
	D-INI-1D	PI(D21)	69	38.0	28.3	51.0	
		PII(D42)	71	30.1	22.6	40.0	

		D-INI-2D	PI(D21)	63	47.7	35.7	63.7														
			PII(D42)	62	82.5	66.4	102.5														
<p>N = Number of subjects with pre- and post-vaccination results available  SCF = Fold increase in serum HI GMTs post-vaccination  95% CI = 95% confidence interval, LL = Lower Limit, UL = Upper Limit  PI(D21)= Post-vaccination Day 21  PII(D42) = Post-vaccination Day 42</p>																					
<b>Secondary Outcome Variable(s):</b> Incidence of solicited local symptoms reported during the 7-day (Days 0-6) post-vaccination period following each dose and across doses (Total Vaccinated cohort)																					
		<b>D-NEW-1D Group</b>					<b>D-NEW-2D Group</b>					<b>D-INI-1D Group</b>					<b>D-INI-2D Group</b>				
		95 % CI					95 % CI					95 % CI					95 % CI				
<b>Symptom</b>	<b>Intensity</b>	<b>N</b>	<b>n</b>	<b>%</b>	<b>LL</b>	<b>UL</b>	<b>N</b>	<b>n</b>	<b>%</b>	<b>LL</b>	<b>UL</b>	<b>N</b>	<b>n</b>	<b>%</b>	<b>LL</b>	<b>UL</b>	<b>N</b>	<b>n</b>	<b>%</b>	<b>LL</b>	<b>UL</b>
<b>Dose 1</b>																					
Pain	Any	76	71	93.4	85.3	97.8	73	62	84.9	74.6	92.2	74	69	93.2	84.9	97.8	75	66	88.0	78.4	94.4
	Grade 3	76	2	2.6	0.3	9.2	73	2	2.7	0.3	9.5	74	1	1.4	0.0	7.3	75	2	2.7	0.3	9.3
Redness	Any	76	1	1.3	0.0	7.1	73	1	1.4	0.0	7.4	74	4	5.4	1.5	13.3	75	1	1.3	0.0	7.2
	>100 mm	76	1	1.3	0.0	7.1	73	0	0.0	0.0	4.9	74	0	0.0	0.0	4.9	75	0	0.0	0.0	4.8
Swelling	Any	76	4	5.3	1.5	12.9	73	4	5.5	1.5	13.4	74	3	4.1	0.8	11.4	75	7	9.3	3.8	18.3
	>100 mm	76	0	0.0	0.0	4.7	73	0	0.0	0.0	4.9	74	0	0.0	0.0	4.9	75	0	0.0	0.0	4.8
<b>Dose 2</b>																					
Pain	Any	-	-	-	-	-	70	61	87.1	77.0	93.9	-	-	-	-	-	71	59	83.1	72.3	91.0
	Grade 3	-	-	-	-	-	70	0	0.0	0.0	5.1	-	-	-	-	-	71	3	4.2	0.9	11.9
Redness	Any	-	-	-	-	-	70	3	4.3	0.9	12.0	-	-	-	-	-	71	3	4.2	0.9	11.9
	>100 mm	-	-	-	-	-	70	0	0.0	0.0	5.1	-	-	-	-	-	71	0	0.0	0.0	5.1
Swelling	Any	-	-	-	-	-	70	5	7.1	2.4	15.9	-	-	-	-	-	71	7	9.9	4.1	19.3
	>100 mm	-	-	-	-	-	70	0	0.0	0.0	5.1	-	-	-	-	-	71	0	0.0	0.0	5.1
<b>Across doses</b>																					
Pain	Any	76	71	93.4	85.3	97.8	73	67	91.8	83.0	96.9	74	69	93.2	84.9	97.8	75	68	90.7	81.7	96.2
	Grade 3	76	2	2.6	0.3	9.2	73	2	2.7	0.3	9.5	74	1	1.4	0.0	7.3	75	5	6.7	2.2	14.9
Redness	Any	76	1	1.3	0.0	7.1	73	3	4.1	0.9	11.5	74	4	5.4	1.5	13.3	75	4	5.3	1.5	13.1
	>100 mm	76	1	1.3	0.0	7.1	73	0	0.0	0.0	4.9	74	0	0.0	0.0	4.9	75	0	0.0	0.0	4.8
Swelling	Any	76	4	5.3	1.5	12.9	73	7	9.6	3.9	18.8	74	3	4.1	0.8	11.4	75	11	14.7	7.6	24.7
	>100 mm	76	0	0.0	0.0	4.7	73	0	0.0	0.0	4.9	74	0	0.0	0.0	4.9	75	0	0.0	0.0	4.8
<p>N= number of subjects with at least one documented dose  n/%= number/percentage of subjects reporting at least once the symptom  95%CI= Exact 95% confidence interval; LL = lower limit, UL = upper limit  Any= occurrence of any local symptom regardless of intensity grade  Grade 3 pain= Significant pain at rest; prevented normal activities as assessed by inability to attend/do work or school</p>																					
<b>Secondary Outcome Variable(s):</b> Number of days with any local symptoms during the solicited post-vaccination period (Total Vaccinated cohort)																					
<b>Solicited symptom</b>		<b>Dose</b>		<b>Group</b>		<b>N</b>		<b>Mean</b>		<b>Median</b>											
Pain		Dose 1		D-NEW-1D		71		3.0		3.0											
				D-NEW-2D		62		3.0		3.0											
				D-INI-1D		69		3.3		3.0											
				D-INI-2D		66		3.1		3.0											
		Dose 2		D-NEW-2D		61		2.9		3.0											
				D-INI-2D		59		3.0		3.0											
Redness		Dose 1		D-NEW-1D		1		5.0		5.0											
				D-NEW-2D		1		2.0		2.0											
				D-INI-1D		4		2.0		1.5											
				D-INI-2D		1		2.0		2.0											
		Dose 2		D-NEW-2D		3		2.7		2.0											
				D-INI-2D		3		3.7		4.0											
Swelling		Dose 1		D-NEW-1D		4		4.0		4.0											
				D-NEW-2D		4		2.8		3.0											

						D-INI-1D		3		2.3		1.0									
						D-INI-2D		7		3.3		3.0									
		Dose 2				D-NEW-2D		5		2.8		3.0									
						D-INI-2D		7		2.6		2.0									
N = number of doses with the symptom																					
<b>Secondary Outcome Variable(s):</b> Incidence of solicited general symptoms reported during the 7-day (Days 0-6) post-vaccination period following each dose and across doses (Total Vaccinated cohort)																					
		D-NEW-1D Group				D-NEW-2D Group				D-INI-1D Group				D-INI-2D Group							
				95 % CI				95 % CI				95 % CI				95 % CI					
<b>Symptom</b>	<b>Intensity/Relationship</b>	<b>N</b>	<b>n</b>	<b>%</b>	<b>LL</b>	<b>UL</b>	<b>N</b>	<b>n</b>	<b>%</b>	<b>LL</b>	<b>UL</b>	<b>N</b>	<b>n</b>	<b>%</b>	<b>LL</b>	<b>UL</b>	<b>N</b>	<b>n</b>	<b>%</b>	<b>LL</b>	<b>UL</b>
<b>Dose 1</b>																					
Fatigue	Any	76	19	25.0	15.8	36.3	73	30	41.1	29.7	53.2	74	19	25.7	16.2	37.2	75	31	41.3	30.1	53.3
	Grade 3	76	1	1.3	0.0	7.1	73	2	2.7	0.3	9.5	74	0	0.0	0.0	4.9	75	2	2.7	0.3	9.3
	Related	76	17	22.4	13.6	33.4	73	22	30.1	19.9	42.0	74	17	23.0	14.0	34.2	75	29	38.7	27.6	50.6
Headache	Any	76	25	32.9	22.5	44.6	73	22	30.1	19.9	42.0	74	21	28.4	18.5	40.1	75	31	41.3	30.1	53.3
	Grade 3	76	0	0.0	0.0	4.7	73	2	2.7	0.3	9.5	74	0	0.0	0.0	4.9	75	3	4.0	0.8	11.2
	Related	76	18	23.7	14.7	34.8	73	17	23.3	14.2	34.6	74	15	20.3	11.8	31.2	75	27	36.0	25.2	47.9
Joint pain at other location	Any	76	13	17.1	9.4	27.5	73	14	19.2	10.9	30.1	74	9	12.2	5.7	21.8	75	15	20.0	11.6	30.8
	Grade 3	76	1	1.3	0.0	7.1	73	1	1.4	0.0	7.4	74	0	0.0	0.0	4.9	75	1	1.3	0.0	7.2
	Related	76	13	17.1	9.4	27.5	73	12	16.4	8.8	27.0	74	6	8.1	3.0	16.8	75	14	18.7	10.6	29.3
Muscle aches	Any	76	26	34.2	23.7	46.0	73	22	30.1	19.9	42.0	74	25	33.8	23.2	45.7	75	28	37.3	26.4	49.3
	Grade 3	76	1	1.3	0.0	7.1	73	1	1.4	0.0	7.4	74	1	1.4	0.0	7.3	75	0	0.0	0.0	4.8
	Related	76	24	31.6	21.4	43.3	73	20	27.4	17.6	39.1	74	17	23.0	14.0	34.2	75	28	37.3	26.4	49.3
Shivering	Any	76	9	11.8	5.6	21.3	73	19	26.0	16.5	37.6	74	12	16.2	8.7	26.6	75	29	38.7	27.6	50.6
	Grade 3	76	0	0.0	0.0	4.7	73	0	0.0	0.0	4.9	74	1	1.4	0.0	7.3	75	2	2.7	0.3	9.3
	Related	76	8	10.5	4.7	19.7	73	16	21.9	13.1	33.1	74	10	13.5	6.7	23.5	75	27	36.0	25.2	47.9
Sweating	Any	76	7	9.2	3.8	18.1	73	9	12.3	5.8	22.1	74	6	8.1	3.0	16.8	75	12	16.0	8.6	26.3
	Grade 3	76	0	0.0	0.0	4.7	73	0	0.0	0.0	4.9	74	0	0.0	0.0	4.9	75	2	2.7	0.3	9.3
	Related	76	5	6.6	2.2	14.7	73	4	5.5	1.5	13.4	74	5	6.8	2.2	15.1	75	10	13.3	6.6	23.2
Temperature (Axillary)	≥ 37.5°C	76	2	2.6	0.3	9.2	73	1	1.4	0.0	7.4	74	2	2.7	0.3	9.4	75	2	2.7	0.3	9.3
	≥ 39.0 - ≤40°C	76	0	0.0	0.0	4.7	73	0	0.0	0.0	4.9	74	0	0.0	0.0	4.9	75	0	0.0	0.0	4.8
	Related	76	2	2.6	0.3	9.2	73	1	1.4	0.0	7.4	74	2	2.7	0.3	9.4	75	2	2.7	0.3	9.3
<b>Dose 2</b>																					
Fatigue	Any	-	-	-	-	-	70	29	41.4	29.8	53.8	-	-	-	-	-	71	33	46.5	34.5	58.7
	Grade 3	-	-	-	-	-	70	2	2.9	0.3	9.9	-	-	-	-	-	71	2	2.8	0.3	9.8
	Related	-	-	-	-	-	70	27	38.6	27.2	51.0	-	-	-	-	-	71	26	36.6	25.5	48.9
Headache	Any	-	-	-	-	-	70	24	34.3	23.3	46.6	-	-	-	-	-	71	32	45.1	33.2	57.3
	Grade 3	-	-	-	-	-	70	2	2.9	0.3	9.9	-	-	-	-	-	71	3	4.2	0.9	11.9
	Related	-	-	-	-	-	70	17	24.3	14.8	36.0	-	-	-	-	-	71	26	36.6	25.5	48.9
Joint pain at other location	Any	-	-	-	-	-	70	15	21.4	12.5	32.9	-	-	-	-	-	71	22	31.0	20.5	43.1
	Grade 3	-	-	-	-	-	70	1	1.4	0.0	7.7	-	-	-	-	-	71	3	4.2	0.9	11.9
	Related	-	-	-	-	-	70	15	21.4	12.5	32.9	-	-	-	-	-	71	19	26.8	16.9	38.6
Muscle aches	Any	-	-	-	-	-	70	21	30.0	19.6	42.1	-	-	-	-	-	71	26	36.6	25.5	48.9
	Grade 3	-	-	-	-	-	70	1	1.4	0.0	7.7	-	-	-	-	-	71	3	4.2	0.9	11.9
	Related	-	-	-	-	-	70	21	30.0	19.6	42.1	-	-	-	-	-	71	26	36.6	25.5	48.9
Shivering	Any	-	-	-	-	-	70	21	30.0	19.6	42.1	-	-	-	-	-	71	21	29.6	19.3	41.6
	Grade 3	-	-	-	-	-	70	2	2.9	0.3	9.9	-	-	-	-	-	71	4	5.6	1.6	13.8
	Related	-	-	-	-	-	70	21	30.0	19.6	42.1	-	-	-	-	-	71	18	25.4	15.8	37.1
Sweating	Any	-	-	-	-	-	70	10	14.3	7.1	24.7	-	-	-	-	-	71	10	14.1	7.0	24.4
	Grade 3	-	-	-	-	-	70	1	1.4	0.0	7.7	-	-	-	-	-	71	1	1.4	0.0	7.6
	Related	-	-	-	-	-	70	9	12.9	6.1	23.0	-	-	-	-	-	71	9	12.7	6.0	22.7
Temperature	≥ 37.5°C	-	-	-	-	-	70	4	5.7	1.6	14.0	-	-	-	-	-	71	5	7.0	2.3	15.7

Temperature (Axillary)	≥ 39.0 - ≤40°C	-	-	-	-	-	70	1	1.4	0.0	7.7	-	-	-	-	-	71	0	0.0	0.0	5.1
	Related	-	-	-	-	-	70	4	5.7	1.6	14.0	-	-	-	-	-	71	5	7.0	2.3	15.7
<b>Across doses</b>																					
Fatigue	Any	76	19	25.0	15.8	36.3	73	43	58.9	46.8	70.3	74	19	25.7	16.2	37.2	75	43	57.3	45.4	68.7
	Grade 3	76	1	1.3	0.0	7.1	73	4	5.5	1.5	13.4	74	0	0.0	0.0	4.9	75	4	5.3	1.5	13.1
	Related	76	17	22.4	13.6	33.4	73	36	49.3	37.4	61.3	74	17	23.0	14.0	34.2	75	38	50.7	38.9	62.4
Headache	Any	76	25	32.9	22.5	44.6	73	36	49.3	37.4	61.3	74	21	28.4	18.5	40.1	75	43	57.3	45.4	68.7
	Grade 3	76	0	0.0	0.0	4.7	73	4	5.5	1.5	13.4	74	0	0.0	0.0	4.9	75	5	6.7	2.2	14.9
	Related	76	18	23.7	14.7	34.8	73	26	35.6	24.7	47.7	74	15	20.3	11.8	31.2	75	36	48.0	36.3	59.8
Joint pain at other location	Any	76	13	17.1	9.4	27.5	73	23	31.5	21.1	43.4	74	9	12.2	5.7	21.8	75	27	36.0	25.2	47.9
	Grade 3	76	1	1.3	0.0	7.1	73	2	2.7	0.3	9.5	74	0	0.0	0.0	4.9	75	4	5.3	1.5	13.1
	Related	76	13	17.1	9.4	27.5	73	22	30.1	19.9	42.0	74	6	8.1	3.0	16.8	75	23	30.7	20.5	42.4
Muscle aches	Any	76	26	34.2	23.7	46.0	73	35	47.9	36.1	60.0	74	25	33.8	23.2	45.7	75	37	49.3	37.6	61.1
	Grade 3	76	1	1.3	0.0	7.1	73	2	2.7	0.3	9.5	74	1	1.4	0.0	7.3	75	3	4.0	0.8	11.2
	Related	76	24	31.6	21.4	43.3	73	33	45.2	33.5	57.3	74	17	23.0	14.0	34.2	75	37	49.3	37.6	61.1
Shivering	Any	76	9	11.8	5.6	21.3	73	33	45.2	33.5	57.3	74	12	16.2	8.7	26.6	75	40	53.3	41.4	64.9
	Grade 3	76	0	0.0	0.0	4.7	73	2	2.7	0.3	9.5	74	1	1.4	0.0	7.3	75	6	8.0	3.0	16.6
	Related	76	8	10.5	4.7	19.7	73	30	41.1	29.7	53.2	74	10	13.5	6.7	23.5	75	35	46.7	35.1	58.6
Sweating	Any	76	7	9.2	3.8	18.1	73	17	23.3	14.2	34.6	74	6	8.1	3.0	16.8	75	20	26.7	17.1	38.1
	Grade 3	76	0	0.0	0.0	4.7	73	1	1.4	0.0	7.4	74	0	0.0	0.0	4.9	75	3	4.0	0.8	11.2
	Related	76	5	6.6	2.2	14.7	73	13	17.8	9.8	28.5	74	5	6.8	2.2	15.1	75	17	22.7	13.8	33.8
Temperature (Axillary)	≥ 37.5°C	76	2	2.6	0.3	9.2	73	5	6.8	2.3	15.3	74	2	2.7	0.3	9.4	75	6	8.0	3.0	16.6
	≥ 39.0 - ≤40°C	76	0	0.0	0.0	4.7	73	1	1.4	0.0	7.4	74	0	0.0	0.0	4.9	75	0	0.0	0.0	4.8
	Related	76	2	2.6	0.3	9.2	73	5	6.8	2.3	15.3	74	2	2.7	0.3	9.4	75	6	8.0	3.0	16.6

N= number of subjects with at least one documented dose  
n/%= number/percentage of subjects reporting at least once the symptom  
95%CI= Exact 95% confidence interval; LL = lower limit, UL = upper limit  
Any= occurrence of any general symptom regardless of intensity grade or relationship to vaccination  
Grade 3 symptoms = Prevented normal everyday activities as assessed by inability to attend/do work or school, or required intervention of a physician/healthcare provider  
Related= general symptom assessed by the investigator as causally related to the study vaccination

**Secondary Outcome Variable(s):** Number of days with any general symptoms during the solicited post-vaccination period (Total Vaccinated cohort)

Solicited symptom	Dose	Group	N	Mean	Median
Fatigue	Dose 1	D-NEW-1D	19	2.5	2.0
		D-NEW-2D	30	2.2	2.0
		D-INI-1D	19	2.1	2.0
		D-INI-2D	31	2.3	2.0
	Dose 2	D-NEW-2D	29	2.0	2.0
		D-INI-2D	33	2.2	2.0
Headache	Dose 1	D-NEW-1D	25	2.0	2.0
		D-NEW-2D	22	2.2	1.0
		D-INI-1D	21	2.0	1.0
		D-INI-2D	31	2.1	2.0
	Dose 2	D-NEW-2D	24	1.9	1.0
		D-INI-2D	32	2.4	2.0
Joint pain at other location	Dose 1	D-NEW-1D	13	2.1	2.0
		D-NEW-2D	14	2.7	2.0
		D-INI-1D	9	2.3	2.0
		D-INI-2D	15	2.0	2.0
	Dose 2	D-NEW-2D	15	2.1	2.0
		D-INI-2D	22	2.0	1.0

Muscle aches	Dose 1	D-NEW-1D	26	2.3	2.0
		D-NEW-2D	22	2.6	2.0
		D-INI-1D	25	2.4	2.0
		D-INI-2D	28	2.4	2.0
	Dose 2	D-NEW-2D	21	2.4	2.0
		D-INI-2D	26	2.7	3.0
Sweating	Dose 1	D-NEW-1D	7	1.1	1.0
		D-NEW-2D	9	1.6	1.0
		D-INI-1D	6	3.7	4.0
		D-INI-2D	12	2.0	2.0
	Dose 2	D-NEW-2D	10	1.4	1.0
		D-INI-2D	10	2.1	1.0
Shivering	Dose 1	D-NEW-1D	9	1.8	1.0
		D-NEW-2D	19	2.1	1.0
		D-INI-1D	12	2.2	1.5
		D-INI-2D	29	1.8	1.0
	Dose 2	D-NEW-2D	21	1.5	1.0
		D-INI-2D	21	1.6	1.0
Temperature	Dose 1	D-NEW-1D	2	1.0	1.0
		D-NEW-2D	1	1.0	1.0
		D-INI-1D	2	1.0	1.0
		D-INI-2D	2	1.0	1.0
	Dose 2	D-NEW-2D	4	1.8	1.5
		D-INI-2D	5	1.0	1.0

N = number of doses with the symptom

**Secondary Outcome Variable(s):** Number (%) of subjects with AE of Specific Interest (AESI) / potential Immune-Mediated Diseases (pIMDs) up to Day 42 (Total Vaccinated cohort)

<b>Most frequent AESIs/pIMDs</b>	<b>D-NEW-1D Group N = 76</b>	<b>D-NEW-2D Group N = 73</b>	<b>D-INI-1D Group N = 76</b>	<b>D-INI-2D Group N = 75</b>
Subjects with any AE(s), n (%)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Subjects with related AE(s), n (%)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

Related AE: event assessed by the investigator as possibly related to the study vaccination.

**Safety results:** Number (%) of subjects with unsolicited adverse events up to Day 42 (Total Vaccinated cohort)

<b>Most frequent adverse events - On-Therapy (occurring within Day 0-41 following vaccination)</b>	<b>D-NEW-1D Group N = 76</b>	<b>D-NEW-2D Group N = 73</b>	<b>D-INI-1D Group N = 76</b>	<b>D-INI-2D Group N = 75</b>
Subjects with any AE(s), n (%)	27 (35.5)	27 (37.0)	37 (48.7)	30 (40.0)
Subjects with grade 3 AE(s), n (%)	4 (5.3)	6 (8.2)	3 (3.9)	3 (4.0)
Subjects with related AE(s), n (%)	5 (6.6)	15 (20.5)	5 (6.6)	7 (9.3)
Nasopharyngitis	19 (25.0)	7 (9.6)	8 (10.5)	10 (13.3)
Headache	-	4 (5.5)	4 (5.3)	6 (8.0)
Rhinitis	-	3 (4.1)	3 (3.9)	3 (4.0)
Oropharyngeal pain	4 (5.3)	-	-	2 (2.7)
Vertigo	-	3 (4.1)	-	3 (4.0)
Cough	2 (2.6)	-	2 (2.6)	-
Nausea	-	4 (5.5)	-	-
Back pain	-	3 (4.1)	-	-
Arthralgia	-	-	-	2 (2.7)
Conjunctivitis	2 (2.6)	-	-	-
Gastritis	-	-	2 (2.6)	-
Gastroenteritis	-	-	2 (2.6)	-
Iron deficiency	2 (2.6)	-	-	-
Upper respiratory tract infection	-	-	-	2 (2.7)

Grade 3 AE = event which prevented normal, everyday activities.				
Related AE = event assessed by the investigator as possibly related to the study vaccination				
- : Adverse event absent or not meeting the selected rule: More than 30 subjects per treatment group and > 3 groups: only the 5 most frequent events in each treatment group are to be listed.				
<b>Safety results:</b> Number (%) of subjects with serious adverse events up to Day 42 (Total Vaccinated cohort)				
<b>Serious adverse event, n (%) [n considered by the investigator to be related to study medication]</b>				
<b>All SAEs</b>	<b>D-NEW-1D Group N = 76</b>	<b>D-NEW-2D Group N = 73</b>	<b>D-INI-1D Group N = 76</b>	<b>D-INI-2D Group N = 75</b>
Subjects with any SAE(s), n (%) [n assessed by investigator as related]	0 (0.0) [0]	0 (0.0) [0]	2 (2.6) [0]	2 (2.7) [1]
Calculus urethral	0 (0.0) [0]	0 (0.0) [0]	1 (1.3) [0]	0 (0.0) [0]
Gastritis	0 (0.0) [0]	0 (0.0) [0]	1 (1.3) [0]	0 (0.0) [0]
Pain in extremity	0 (0.0) [0]	0 (0.0) [0]	0 (0.0) [0]	1 (1.3) [1]
Peripheral vascular disorder	0 (0.0) [0]	0 (0.0) [0]	0 (0.0) [0]	1 (1.3) [0]
Salpingitis	0 (0.0) [0]	0 (0.0) [0]	1 (1.3) [0]	0 (0.0) [0]
<b>Fatal SAEs</b>	<b>D-NEW-1D Group N = 76</b>	<b>D-NEW-2D Group N = 73</b>	<b>D-INI-1D Group N = 76</b>	<b>D-INI-2D Group N = 75</b>
Subjects with fatal SAE(s), n (%) [n assessed by investigator as related]	0 (0.0) [0]	0 (0.0) [0]	0 (0.0) [0]	0 (0.0) [0]

**Conclusion:** At Day 21 GMT value was at least 323.0 across groups.  
Up to Day 42, at least one AE was reported by 27 subjects (35.5%) in the D-NEW-1D Group, 27 subjects (37.0%) in the D-NEW-2 Group, 37 subjects (48.7%) in the D-INI-1D Group and 30 subjects (40.0%) in the D-INI 2D group, respectively. SAEs were reported for 2 subjects in D-INI-1D Group and 2 subjects in the D-INI-2D Group; one of these SAEs was assessed by the investigator as related to the study vaccination. No fatal SAE was reported up to Day 42.

**Publications:** None.

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