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|---|
| Study No.: 107975 (FLU-LD-003) |
| <p>Title: A phase II, controlled, randomized, single blind study to evaluate the immunogenicity, safety and reactogenicity of the low dose influenza vaccine adjuvanted with AS03 compared to <i>Fluarix</i>TM (GlaxoSmithKline Biologicals) administered intramuscularly in elderly ≥ 60 years.</p> <p><i>Fluarix</i>TM (Flu vaccine): GlaxoSmithKline (GSK) Biologicals' inactivated influenza split vaccine.</p> <p>FluAS03: GSK Biologicals' Low dose influenza vaccine adjuvanted with AS03</p> |
| <p>Rationale: The aim of this study was to evaluate the immunogenicity in terms of humoral response and cellular mediated immune response, as well as the safety of FluAS03 vaccine compared to Flu vaccine administered intramuscularly in elderly aged 60 years old and above, using the Northern Hemisphere 2006-2007 influenza vaccine composition.</p> |
| Phase: II |
| Study Period: 02 October 2006 to 17 November 2006 |
| Study Design: Single-centre, randomized (1:1), single blind, controlled study with 2 parallel groups. |
| Centres: 1 centre in Belgium. |
| Indication: Immunization against influenza in male and female subjects aged 60 years and older. |
| <p>Treatment: The study groups were as follows:</p> <ul style="list-style-type: none"> • FluAS03 Group: subjects received one dose of FluAS03, • Flu Group: subjects received one dose of Flu vaccine. <p>All vaccines were administered intramuscularly into the deltoid region of the non-dominant arm.</p> |
| <p>Objectives: To assess the humoral immune response (anti-haemagglutinin) elicited by the low dose influenza vaccine adjuvanted with AS03 and by the Flu vaccine, with the Northern Hemisphere 2006-2007 influenza vaccine composition, 21 days after vaccination.</p> |
| <p>Primary Outcome/Efficacy Variable:</p> <p>At Days 0 and 21: serum haemagglutination-inhibition (HI) antibody titre, against each of the three vaccine influenza virus strains, in each group.</p> |
| <p>Secondary Outcome/Efficacy Variable(s):</p> <p><i>Immunogenicity</i></p> <p>At Days 0 and 21:</p> <ul style="list-style-type: none"> • Frequency of influenza-specific CD4/CD8 T-lymphocytes per 10^6 in tests producing at least two different cytokines (IL-2, IFN-γ, TNF-α and CD40L), in each group. • Frequency of influenza-specific CD4/CD8 cells per 10^6 in tests producing at least CD40L and another signal molecule (IL-2, IFN-γ, TNF-α), in each group. • Frequency of influenza-specific CD4/CD8 cells per 10^6 in tests producing at least IL-2 and another signal molecule (CD40L, IFN-γ, TNF-α), in each group. • Frequency of influenza-specific CD4/CD8 cells per 10^6 in tests producing at least TNF-α and another signal molecule (IL-2, IFN-γ, CD40L), in each group. • Frequency of influenza-specific CD4/CD8 cells per 10^6 in tests producing at least IFN-γ and another signal molecule (CD40L, IL-2, TNF-α), in each group. <p>CD40L: Cluster differentiation-40L, IL-2: Interleukin-2, TNF-α: Tumour Necrosis Factor alpha, IFN-γ: Interferon-gamma.</p> <p><i>Safety</i></p> <ul style="list-style-type: none"> • Occurrence, intensity and relationship to vaccination of solicited local and general signs and symptoms during a 7-day follow-up period (i.e. day of vaccination and 6 subsequent days) after vaccination in each group. • Occurrence, intensity and relationship to vaccination of unsolicited adverse events (AEs) during a 30-day follow-up period (i.e. day of vaccination and 29 subsequent days) after vaccination in each group. • Occurrence and relationship to vaccination of serious adverse events (SAEs) during the entire study period in each group. |
| <p>Statistical Methods:</p> <p>The analysis was done on the Total vaccinated cohort and the According-To-Protocol (ATP) cohort for immunogenicity. The Total vaccinated cohort included all vaccinated subjects.</p> <p>The ATP cohort for immunogenicity included all evaluable subjects (i.e., those meeting all eligibility criteria, complying with</p> |

the procedures defined in the protocol, with no elimination criteria during the study), who received one dose of either study vaccine according to their random assignment, for whom administration site of study vaccine was known, who did not receive a vaccine forbidden in the protocol and for whom immunogenicity data were available.

Immunogenicity

The analysis was done on the ATP cohort for immunogenicity.

For the humoral immune response, for each vaccine group and each vaccine strain, geometric mean titres (GMT) with 95% confidence interval (CI) at Days 0 and 21 were tabulated together with the seroconversion* rate with exact 95% CI at Day 21, the seropositivity** and seroprotection*** rates with exact 95% CI at Days 0 and 21 and the seroconversion factor**** with 95% CI at Day 21. Antibody titres below the cut-off of the assay were given an arbitrary value of half the cut-off for the purpose of GMT calculation.

* The seroconversion rate is defined as the proportion of subjects with:

- a pre-vaccination serum HI titre <1:10 and a post-vaccination serum HI titre \geq 1:40, or
- a pre-vaccination serum HI titre \geq 1:10 and a fold increase (post/pre) \geq 4.

** A seropositive subject is a subject with antibody titre \geq 1:10.

*** The seroprotection rate is defined as the proportion of subjects with a serum HI titre \geq 1:40.

**** The seroconversion factor is defined as the fold increase in serum HI GMT on Day 21 compared to Day 0.

For the cell mediated immune (CMI) response, for each vaccine group and each vaccine strain, raw data from the frequency of influenza-specific CD4/CD8 T-cells per 10^6 producing at least 2 different cytokines (IL-2, IFN- γ , TNF- α and CD40L) were summarized at each scheduled time point. The same tabulations were done for influenza-specific CD4/CD8 T-cells per 10^6 producing

- at least IL-2 and another cytokine (IFN- γ , TNF- α and CD40L),
- at least IFN- γ and another cytokine (IL-2, TNF- α and CD40L),
- at least TNF- α and another cytokine (IL-2, IFN- γ and CD40L),
- at least CD40L and another cytokine (IL-2, IFN- γ and TNF- α).

Safety

The analysis was done on the Total vaccinated cohort.

The percentage of subjects reporting each individual solicited local and general symptom during the 7 days solicited follow-up period (Day 0–6) was tabulated with exact 95% CI. The same tabulations were done for grade 3 local and general symptoms and for general symptoms assessed by the investigator as causally related to vaccination. The percentage of subjects with at least one report of an unsolicited AE during the 30-day follow-up period (Days 0-29) after vaccination was tabulated by the Medical Dictionary for Regulatory Activities (MedDRA) preferred terms. The total number of subjects reporting grade 3 AEs or AEs assessed by the investigator as causally related to vaccination was also tabulated. The incidence of SAEs reported during the entire study period was tabulated according to MedDRA preferred terms.

Study Population: Male or female subjects age 60 years or older at the time of the vaccination, free of obvious health problems as established by medical history and clinical examination were included in this study. Subjects having received previous vaccination against influenza within the 12 months prior to enrolment and subjects with a known history of confirmed influenza infection within the last 12 months were excluded from this study. Written informed consent was obtained from the subject prior to study participation.

obtained from the subject prior to study participation.

| Number of subjects | | FluAS03 Group | Flu Group | | | |
|--|-------|----------------|----------------|--------|--------|-----|
| Planned, N | | 75 | 75 | | | |
| Randomized, N (Total vaccinated cohort) | | 75 | 75 | | | |
| Completed, n (%) | | 75 (100) | 75 (100) | | | |
| Total Number Subjects Withdrawn, n (%) | | 0 (0.0) | 0 (0.0) | | | |
| Withdrawn due to Adverse Events, n (%) | | 0 (0.0) | 0 (0.0) | | | |
| Withdrawn due to Lack of Efficacy, n (%) | | Not applicable | Not applicable | | | |
| Withdrawn for other reasons, n (%) | | 0 (0.0) | 0 (0.0) | | | |
| Demographics | | FluAS03 Group | Flu Group | | | |
| N (Total vaccinated cohort) | | 75 | 75 | | | |
| Females:Males | | 38:37 | 38:37 | | | |
| Mean Age, years (SD) | | 64.4 (4.22) | 64.5 (4.18) | | | |
| White - Caucasian, n (%) | | 75 (100) | 73 (97.3) | | | |
| Primary Efficacy Results: | | | | | | |
| Seropositivity rates, seroprotection rate and GMTs for HI antibody titre at Day 0 and Day 21 (ATP cohort for immunogenicity) | | | | | | |
| Vaccine | Group | Timing | N | ≥ 1:10 | ≥ 1:40 | GMT |

| strain | | | | n | % | 95% CI | | n | % | 95% CI | | Value | 95% CI | |
|-----------------|---------|---------|----|----|------|--------|------|----|------|--------|------|-------|--------|-------|
| | | | | | | LL | UL | | | LL | UL | | LL | UL |
| A/New Caledonia | FluAS03 | PRE | 74 | 72 | 97.3 | 90.6 | 99.7 | 40 | 54.1 | 42.1 | 65.7 | 45.3 | 35.9 | 57.1 |
| | | PI(D21) | 74 | 73 | 98.6 | 92.7 | 100 | 68 | 91.9 | 83.2 | 97.0 | 116.4 | 91.2 | 148.5 |
| | Flu | PRE | 74 | 72 | 97.3 | 90.6 | 99.7 | 54 | 73.0 | 61.4 | 82.6 | 81.1 | 61.5 | 106.8 |
| | | PI(D21) | 74 | 74 | 100 | 95.1 | 100 | 73 | 98.6 | 92.7 | 100 | 170.9 | 132.7 | 220.3 |
| A/Wisconsin | FluAS03 | PRE | 74 | 56 | 75.7 | 64.3 | 84.9 | 35 | 47.3 | 35.6 | 59.3 | 28.8 | 20.7 | 40.1 |
| | | PI(D21) | 74 | 74 | 100 | 95.1 | 100 | 69 | 93.2 | 84.9 | 97.8 | 251.9 | 188.7 | 336.4 |
| | Flu | PRE | 74 | 60 | 81.1 | 70.3 | 89.3 | 44 | 59.5 | 47.4 | 70.7 | 41.3 | 29.1 | 58.6 |
| | | PI(D21) | 74 | 74 | 100 | 95.1 | 100 | 71 | 95.9 | 88.6 | 99.2 | 228.4 | 168.5 | 309.6 |
| B/Malaysia | FluAS03 | PRE | 74 | 67 | 90.5 | 81.5 | 96.1 | 28 | 37.8 | 26.8 | 49.9 | 27.1 | 21.8 | 33.6 |
| | | PI(D21) | 74 | 74 | 100 | 95.1 | 100 | 72 | 97.3 | 90.6 | 99.7 | 161.6 | 131.4 | 198.6 |
| | Flu | PRE | 74 | 66 | 89.2 | 79.8 | 95.2 | 39 | 52.7 | 40.7 | 64.4 | 31.6 | 25.1 | 39.8 |
| | | PI(D21) | 74 | 73 | 98.6 | 92.7 | 100 | 70 | 94.6 | 86.7 | 98.5 | 131.4 | 105.8 | 163.1 |

N = number of subjects with available results

S+ = seropositive titre (HI titre \geq 1:10)

SPR = seroprotected titre (HI titre \geq 1:40)

n (%) = number (percentage) of subjects in the specified category

95% CI = 95% confidence interval, LL = Lower Limit, UL = Upper Limit

PRE = pre-vaccination at Day 0

PI(D21) = post-vaccination at Day 21

Primary Efficacy Results

Seroconversion rate (SCR) for HI antibody titre at Day 21 (ATP cohort for immunogenicity)

| Vaccine strain | Group | N | SCR | | | |
|-----------------|---------|----|-----|------|--------|------|
| | | | n | % | 95% CI | |
| | | | | | LL | UL |
| A/New Caledonia | FluAS03 | 74 | 21 | 28.4 | 18.5 | 40.1 |
| | Flu | 74 | 12 | 16.2 | 8.7 | 26.6 |
| A/Wisconsin | FluAS03 | 74 | 52 | 70.3 | 58.5 | 80.3 |
| | Flu | 74 | 40 | 54.1 | 42.1 | 65.7 |
| B/Malaysia | FluAS03 | 74 | 46 | 62.2 | 50.1 | 73.2 |
| | Flu | 74 | 31 | 41.9 | 30.5 | 53.9 |

Seroconversion defined as:

For initially seronegative subjects, antibody titre \geq 1:40 after vaccination

For initially seropositive subjects, antibody titre after vaccination \geq 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

Primary Efficacy Results

Seroconversion factor (SCF) for HI antibody titre at Day 21 (ATP cohort for immunogenicity)

| Vaccine strain | Group | N | SCF | | |
|-----------------|---------|----|-------|--------|------|
| | | | Value | 95% CI | |
| | | | | LL | UL |
| A/New Caledonia | FluAS03 | 74 | 2.6 | 2.0 | 3.3 |
| | Flu | 74 | 2.1 | 1.6 | 2.8 |
| A/Wisconsin | FluAS03 | 74 | 8.7 | 6.3 | 12.1 |
| | Flu | 74 | 5.5 | 4.0 | 7.6 |
| B/Malaysia | FluAS03 | 74 | 6.0 | 4.6 | 7.8 |
| | Flu | 74 | 4.2 | 3.2 | 5.4 |

SCF defined as the fold increase in serum HI GMT on Day 21 compared to Day 0.

N = number of subjects with pre- and post-vaccination results available

95% CI = 95% confidence interval, LL = Lower Limit, UL = Upper Limit

Secondary Outcome Variable (s):

Descriptive statistics on the frequency of cytokine-positive CD4 T-cells (per million CD4 T-cells) at each time point by vaccine strains (ATP cohort for immunogenicity)

| Test description | Vaccine strain | Group | Timing | N | GM | SD | Median |
|------------------|----------------|-------|--------|---|----|----|--------|
|------------------|----------------|-------|--------|---|----|----|--------|

| | | | | | | | |
|------------------------------------|-----------------|---------|---------|----|---------|---------|---------|
| CD4-all doubles | B/Malaysia | FluAS03 | PRE | 73 | 436.58 | 348.81 | 499.00 |
| | | | PI(D21) | 73 | 1555.92 | 1060.11 | 1572.00 |
| | | Flu | PRE | 71 | 451.35 | 448.35 | 467.00 |
| | | | PI(D21) | 73 | 736.15 | 588.56 | 949.00 |
| | A/New Caledonia | FluAS03 | PRE | 73 | 322.57 | 348.20 | 405.00 |
| | | | PI(D21) | 73 | 872.71 | 662.32 | 956.00 |
| | | Flu | PRE | 71 | 370.36 | 408.19 | 429.00 |
| | | | PI(D21) | 73 | 510.86 | 604.98 | 672.00 |
| | A/Wisconsin | FluAS03 | PRE | 73 | 37.33 | 155.75 | 63.00 |
| | | | PI(D21) | 73 | 113.74 | 412.68 | 168.00 |
| | | Flu | PRE | 71 | 50.79 | 212.97 | 114.00 |
| | | | PI(D21) | 73 | 72.43 | 190.60 | 140.00 |
| CD4-CD40L | B/Malaysia | FluAS03 | PRE | 73 | 424.07 | 328.40 | 477.00 |
| | | | PI(D21) | 73 | 1409.79 | 983.81 | 1432.00 |
| | | Flu | PRE | 71 | 433.94 | 406.20 | 469.00 |
| | | | PI(D21) | 73 | 694.68 | 550.36 | 884.00 |
| | A/New Caledonia | FluAS03 | PRE | 73 | 317.25 | 337.18 | 359.00 |
| | | | PI(D21) | 73 | 786.97 | 598.31 | 838.00 |
| | | Flu | PRE | 71 | 354.60 | 399.44 | 392.00 |
| | | | PI(D21) | 73 | 475.96 | 576.45 | 663.00 |
| | A/Wisconsin | FluAS03 | PRE | 73 | 36.53 | 145.90 | 65.00 |
| | | | PI(D21) | 73 | 97.23 | 346.59 | 159.00 |
| | | Flu | PRE | 71 | 52.22 | 208.27 | 96.00 |
| | | | PI(D21) | 73 | 65.37 | 168.16 | 135.00 |
| CD4-IFN-γ | B/Malaysia | FluAS03 | PRE | 73 | 265.46 | 297.90 | 310.00 |
| | | | PI(D21) | 73 | 1081.98 | 840.54 | 1197.00 |
| | | Flu | PRE | 71 | 244.30 | 377.07 | 305.00 |
| | | | PI(D21) | 73 | 530.64 | 451.71 | 664.00 |
| | A/New Caledonia | FluAS03 | PRE | 73 | 225.76 | 265.96 | 277.00 |
| | | | PI(D21) | 73 | 527.98 | 522.30 | 627.00 |
| | | Flu | PRE | 71 | 239.78 | 285.26 | 270.00 |
| | | | PI(D21) | 73 | 407.10 | 492.37 | 460.00 |
| | A/Wisconsin | FluAS03 | PRE | 73 | 24.45 | 114.69 | 41.00 |
| | | | PI(D21) | 73 | 83.99 | 365.27 | 103.00 |
| | | Flu | PRE | 71 | 30.49 | 83.91 | 55.00 |
| | | | PI(D21) | 73 | 38.46 | 126.65 | 84.00 |
| CD4-IL2 | B/Malaysia | FluAS03 | PRE | 73 | 379.42 | 318.77 | 408.00 |
| | | | PI(D21) | 73 | 1297.82 | 880.34 | 1340.00 |
| | | Flu | PRE | 71 | 382.48 | 378.85 | 430.00 |
| | | | PI(D21) | 73 | 647.93 | 508.83 | 773.00 |
| | A/New Caledonia | FluAS03 | PRE | 73 | 256.57 | 307.83 | 317.00 |
| | | | PI(D21) | 73 | 652.75 | 539.89 | 733.00 |
| | | Flu | PRE | 71 | 220.62 | 301.07 | 300.00 |
| | | | PI(D21) | 73 | 300.71 | 502.30 | 469.00 |
| | A/Wisconsin | FluAS03 | PRE | 73 | 31.74 | 130.05 | 48.00 |
| | | | PI(D21) | 73 | 89.97 | 301.28 | 134.00 |
| | | Flu | PRE | 71 | 53.93 | 127.47 | 89.00 |
| | | | PI(D21) | 73 | 53.47 | 148.09 | 107.00 |
| CD4-TNF-α | B/Malaysia | FluAS03 | PRE | 73 | 332.83 | 298.11 | 416.00 |
| | | | PI(D21) | 73 | 1098.28 | 869.02 | 1032.00 |
| | | Flu | PRE | 71 | 331.52 | 383.96 | 383.00 |
| | | | PI(D21) | 73 | 532.81 | 420.99 | 655.00 |
| | A/New | FluAS03 | PRE | 73 | 219.03 | 276.48 | 307.00 |

| | | | | | | | |
|--|-------------|---------|---------|----|--------|--------|--------|
| | Caledonia | | PI(D21) | 73 | 582.62 | 506.95 | 657.00 |
| | | Flu | PRE | 71 | 261.91 | 369.60 | 288.00 |
| | | | PI(D21) | 73 | 317.96 | 416.78 | 460.00 |
| | A/Wisconsin | FluAS03 | PRE | 73 | 23.29 | 119.05 | 52.00 |
| | | | PI(D21) | 73 | 84.99 | 308.52 | 128.00 |
| | | Flu | PRE | 71 | 36.16 | 190.06 | 71.00 |
| | | | PI(D21) | 73 | 44.97 | 157.29 | 89.00 |

N = number of subjects with available results

All doubles: T-cells producing at least 2 cytokines

GM = Geometric Mean

SD = Standard Deviation

PRE = pre-vaccination at Day 0

PI(D21) = post-vaccination at Day 21

Secondary Outcome Variable (s):

Descriptive Statistics on the frequency cytokine-positive CD8 T-cells (per million CD8 T-cells) at each time point by vaccine strains (ATP cohort for immunogenicity)

| Test description | Vaccine strain | Group | Timing | N | GM | SD | Median |
|-------------------|-----------------|---------|---------|----|------|--------|--------|
| CD8-all doubles | B/Malaysia | FluAS03 | PRE | 72 | 7.91 | 83.49 | 1.00 |
| | | | PI(D21) | 73 | 7.82 | 95.80 | 1.00 |
| | | Flu | PRE | 69 | 4.17 | 70.59 | 1.00 |
| | | | PI(D21) | 72 | 3.74 | 120.67 | 1.00 |
| | A/New Caledonia | FluAS03 | PRE | 71 | 6.22 | 233.32 | 1.00 |
| | | | PI(D21) | 73 | 7.81 | 191.24 | 1.00 |
| | | Flu | PRE | 69 | 7.31 | 112.56 | 1.00 |
| | | | PI(D21) | 70 | 4.40 | 141.07 | 1.00 |
| | A/Wisconsin | FluAS03 | PRE | 72 | 3.93 | 82.82 | 1.00 |
| | | | PI(D21) | 73 | 3.35 | 56.70 | 1.00 |
| | | Flu | PRE | 69 | 6.79 | 85.90 | 1.00 |
| | | | PI(D21) | 73 | 2.79 | 70.15 | 1.00 |
| CD8-CD40L | B/Malaysia | FluAS03 | PRE | 72 | 2.20 | 34.98 | 1.00 |
| | | | PI(D21) | 73 | 3.66 | 45.91 | 1.00 |
| | | Flu | PRE | 69 | 2.11 | 36.15 | 1.00 |
| | | | PI(D21) | 72 | 1.98 | 32.45 | 1.00 |
| | A/New Caledonia | FluAS03 | PRE | 71 | 2.56 | 113.11 | 1.00 |
| | | | PI(D21) | 73 | 4.17 | 93.16 | 1.00 |
| | | Flu | PRE | 69 | 5.34 | 65.09 | 1.00 |
| | | | PI(D21) | 70 | 2.11 | 51.19 | 1.00 |
| | A/Wisconsin | FluAS03 | PRE | 72 | 2.15 | 53.59 | 1.00 |
| | | | PI(D21) | 73 | 2.18 | 39.28 | 1.00 |
| | | Flu | PRE | 69 | 2.70 | 44.68 | 1.00 |
| | | | PI(D21) | 73 | 2.11 | 39.64 | 1.00 |
| CD8-IFN- γ | B/Malaysia | FluAS03 | PRE | 72 | 4.28 | 56.03 | 1.00 |
| | | | PI(D21) | 73 | 6.24 | 74.51 | 1.00 |
| | | Flu | PRE | 69 | 2.71 | 56.13 | 1.00 |
| | | | PI(D21) | 72 | 3.53 | 118.94 | 1.00 |
| | A/New Caledonia | FluAS03 | PRE | 71 | 5.67 | 231.67 | 1.00 |
| | | | PI(D21) | 73 | 5.04 | 174.85 | 1.00 |
| | | Flu | PRE | 69 | 4.34 | 97.73 | 1.00 |
| | | | PI(D21) | 70 | 3.98 | 133.45 | 1.00 |
| | A/Wisconsin | FluAS03 | PRE | 72 | 2.84 | 73.55 | 1.00 |
| | | | PI(D21) | 73 | 2.46 | 44.69 | 1.00 |
| | | Flu | PRE | 69 | 4.40 | 69.48 | 1.00 |
| | | | PI(D21) | 73 | 1.98 | 36.44 | 1.00 |

| | | | | | | | |
|------------------------------------|-----------------|---------|---------|----|------|--------|------|
| CD8-IL2 | B/Malaysia | FluAS03 | PRE | 72 | 3.60 | 92.44 | 1.00 |
| | | | PI(D21) | 73 | 3.45 | 60.32 | 1.00 |
| | | Flu | PRE | 69 | 2.12 | 44.04 | 1.00 |
| | | | PI(D21) | 72 | 2.44 | 32.77 | 1.00 |
| | A/New Caledonia | FluAS03 | PRE | 71 | 2.48 | 131.52 | 1.00 |
| | | | PI(D21) | 73 | 4.63 | 125.59 | 1.00 |
| | | Flu | PRE | 69 | 4.43 | 60.02 | 1.00 |
| | | | PI(D21) | 70 | 2.44 | 62.17 | 1.00 |
| | A/Wisconsin | FluAS03 | PRE | 72 | 1.93 | 55.19 | 1.00 |
| | | | PI(D21) | 73 | 2.76 | 45.28 | 1.00 |
| | | Flu | PRE | 69 | 3.23 | 61.15 | 1.00 |
| | | | PI(D21) | 73 | 2.55 | 61.31 | 1.00 |
| CD8-TNF-α | B/Malaysia | FluAS03 | PRE | 72 | 8.41 | 83.63 | 1.00 |
| | | | PI(D21) | 73 | 6.25 | 91.95 | 1.00 |
| | | Flu | PRE | 69 | 4.29 | 78.46 | 1.00 |
| | | | PI(D21) | 72 | 3.90 | 124.66 | 1.00 |
| | A/New Caledonia | FluAS03 | PRE | 71 | 6.07 | 218.59 | 1.00 |
| | | | PI(D21) | 73 | 8.15 | 171.91 | 1.00 |
| | | Flu | PRE | 69 | 6.05 | 114.14 | 1.00 |
| | | | PI(D21) | 70 | 5.50 | 128.58 | 1.00 |
| | A/Wisconsin | FluAS03 | PRE | 72 | 3.12 | 58.61 | 1.00 |
| | | | PI(D21) | 73 | 2.56 | 49.21 | 1.00 |
| | | Flu | PRE | 69 | 5.55 | 92.14 | 1.00 |
| | | | PI(D21) | 73 | 2.33 | 70.96 | 1.00 |

N = number of subjects with available results

GM = Geometric Mean

SD = Standard Deviation

PRE = Pre-vaccination at Day 0

PI(D21) = Post-vaccination at Day 21

Secondary Outcome Variable (s):

Number (percentage) of subjects reporting solicited local symptoms reported during the 7-day (Day 0-6) post-vaccination period (Total vaccinated cohort)

| Symptom | Intensity | FluAS03 Group | | | | | Flu Group | | | | |
|------------|-----------|---------------|----|------|--------|------|-----------|----|------|--------|------|
| | | N | n | % | 95% CI | | N | n | % | 95% CI | |
| | | | | | LL | UL | | | | LL | UL |
| Ecchymosis | Any | 75 | 1 | 1.3 | 0.0 | 7.2 | 75 | 1 | 1.3 | 0.0 | 7.2 |
| | > 50 mm | 75 | 1 | 1.3 | 0.0 | 7.2 | 75 | 0 | 0.0 | 0.0 | 4.8 |
| Pain | Any | 75 | 57 | 76.0 | 64.7 | 85.1 | 75 | 25 | 33.3 | 22.9 | 45.2 |
| | Grade 3 | 75 | 1 | 1.3 | 0.0 | 7.2 | 75 | 0 | 0.0 | 0.0 | 4.8 |
| Redness | Any | 75 | 14 | 18.7 | 10.6 | 29.3 | 75 | 8 | 10.7 | 4.7 | 19.9 |
| | > 50 mm | 75 | 4 | 5.3 | 1.5 | 13.1 | 75 | 0 | 0.0 | 0.0 | 4.8 |
| Swelling | Any | 75 | 18 | 24.0 | 14.9 | 35.3 | 75 | 5 | 6.7 | 2.2 | 14.9 |
| | > 50 mm | 75 | 3 | 4.0 | 0.8 | 11.2 | 75 | 1 | 1.3 | 0.0 | 7.2 |

N = number of subjects with the 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 = incidence of a particular symptom, regardless of intensity grade

Grade 3 Pain = pain that prevented normal activity

Secondary Outcome Variable (s):

Number/percentage of subjects reporting solicited general symptoms reported during the 7-day (Day 0-6) post-vaccination period (Total vaccinated cohort)

| Symptom | Intensity / relationship | FluAS03 Group | | | | | Flu Group | | | | |
|------------|--------------------------|---------------|----|------|--------|------|-----------|---|------|--------|------|
| | | N | n | % | 95% CI | | N | n | % | 95% CI | |
| | | | | | LL | UL | | | | LL | UL |
| Arthralgia | Any | 75 | 12 | 16.0 | 8.6 | 26.3 | 75 | 8 | 10.7 | 4.7 | 19.9 |

| | | | | | | | | | | | |
|-------------------------|----------|----|----|------|------|------|----|----|------|-----|------|
| | Grade 3 | 75 | 0 | 0.0 | 0.0 | 4.8 | 75 | 0 | 0.0 | 0.0 | 4.8 |
| | Related | 75 | 10 | 13.3 | 6.6 | 23.2 | 75 | 4 | 5.3 | 1.5 | 13.1 |
| Fatigue | Any | 75 | 30 | 40.0 | 28.9 | 52.0 | 75 | 13 | 17.3 | 9.6 | 27.8 |
| | Grade 3 | 75 | 0 | 0.0 | 0.0 | 4.8 | 75 | 0 | 0.0 | 0.0 | 4.8 |
| | Related | 75 | 29 | 38.7 | 27.6 | 50.6 | 75 | 12 | 16.0 | 8.6 | 26.3 |
| Fever (axillary) | ≥ 37.5°C | 75 | 2 | 2.7 | 0.3 | 9.3 | 75 | 0 | 0.0 | 0.0 | 4.8 |
| | > 39.0°C | 75 | 0 | 0.0 | 0.0 | 4.8 | 75 | 0 | 0.0 | 0.0 | 4.8 |
| | Related | 75 | 2 | 2.7 | 0.3 | 9.3 | 75 | 0 | 0.0 | 0.0 | 4.8 |
| Headache | Any | 75 | 28 | 37.3 | 26.4 | 49.3 | 75 | 10 | 13.3 | 6.6 | 23.2 |
| | Grade 3 | 75 | 0 | 0.0 | 0.0 | 4.8 | 75 | 0 | 0.0 | 0.0 | 4.8 |
| | Related | 75 | 24 | 32.0 | 21.7 | 43.8 | 75 | 7 | 9.3 | 3.8 | 18.3 |
| Muscle aches | Any | 75 | 17 | 22.7 | 13.8 | 33.8 | 75 | 10 | 13.3 | 6.6 | 23.2 |
| | Grade 3 | 75 | 1 | 1.3 | 0.0 | 7.2 | 75 | 0 | 0.0 | 0.0 | 4.8 |
| | Related | 75 | 15 | 20.0 | 11.6 | 30.8 | 75 | 8 | 10.7 | 4.7 | 19.9 |
| Shivering | Any | 75 | 10 | 13.3 | 6.6 | 23.2 | 75 | 3 | 4.0 | 0.8 | 11.2 |
| | Grade 3 | 75 | 1 | 1.3 | 0.0 | 7.2 | 75 | 0 | 0.0 | 0.0 | 4.8 |
| | Related | 75 | 9 | 12.0 | 5.6 | 21.6 | 75 | 3 | 4.0 | 0.8 | 11.2 |

N = number of subjects with the 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 = incidence of a particular symptom, regardless of intensity grade or relationship to study vaccine

Grade 3 = symptom that prevented normal activity.

Related = reasonable possibility that the vaccine contributed to the symptom.

Safety Results: Number (%) of subjects with unsolicited adverse events within the 30-day post-vaccination period (Total vaccinated cohort)

| Most frequent adverse events - On-Therapy (occurring within Days 0-29 following vaccination) | FluAS03 Group N = 75 | Flu Group N = 75 |
|---|---------------------------------|-----------------------------|
| Subjects with any AE(s), n (%) | 31 (41.3) | 22 (29.3) |
| Subjects with any grade 3* AE(s), n (%) | 1 (1.3) | 0 (0.0) |
| Subjects with any related** AE(s), n (%) | 11 (14.7) | 7 (9.3) |
| Nasopharyngitis | 7 (9.3) | 4 (5.3) |
| Influenza like illness | 2 (2.7) | 4 (5.3) |
| Pharyngolaryngeal pain | 4 (5.3) | 1 (1.3) |
| Upper respiratory tract infection | 3 (4.0) | 2 (2.7) |
| Injection site pruritus | 4 (5.3) | - |
| Rhinitis | 3 (4.0) | 1 (1.3) |
| Dizziness | 2 (2.7) | 1 (1.3) |
| Cough | 1 (1.3) | 1 (1.3) |
| Dental caries | 1 (1.3) | 1 (1.3) |
| Injection site nodule | 2 (2.7) | - |
| Injection site warmth | 1 (1.3) | 1 (1.3) |
| Musculoskeletal stiffness | 2 (2.7) | - |
| Pain in extremity | 1 (1.3) | 1 (1.3) |
| Rhinorrhea | 2 (2.7) | - |
| Lymphadenopathy | 1 (1.3) | - |
| Abdominal pain | 1 (1.3) | - |
| Diarrhoea | 1 (1.3) | - |
| Gastroesophageal reflux disease | 1 (1.3) | - |
| Chest discomfort | 1 (1.3) | - |
| Chills | 1 (1.3) | - |
| Malaise | 1 (1.3) | - |
| Oedema peripheral | 1 (1.3) | - |
| Pyrexia | 1 (1.3) | - |
| Lymphangitis | 1 (1.3) | - |
| Sinusitis | 1 (1.3) | - |
| Tooth abscess | 1 (1.3) | - |

| | | |
|---|---------------------------------|-----------------------------|
| Back pain | 1 (1.3) | - |
| Myalgia | 1 (1.3) | - |
| Headache | 1 (1.3) | - |
| Syncope vasovagal | 1 (1.3) | - |
| Nervousness | 1 (1.3) | - |
| Arthropod bite | - | 1 (1.3) |
| Axillary pain | - | 1 (1.3) |
| Colitis | - | 1 (1.3) |
| Coronary artery disease | - | 1 (1.3) |
| Diverticulitis | - | 1 (1.3) |
| Injection site anesthesia | - | 1 (1.3) |
| Insomnia | - | 1 (1.3) |
| Musculoskeletal pain | - | 1 (1.3) |
| Nausea | - | 1 (1.3) |
| Neck pain | - | 1 (1.3) |
| Oral herpes | - | 1 (1.3) |
| Paresthesia | - | 1 (1.3) |
| Pharyngitis | - | 1 (1.3) |
| Tendonitis | - | 1 (1.3) |
| Wart excision | - | 1 (1.3) |
| -: AE absent | | |
| *Grade 3 AE: AE that prevented everyday activities | | |
| **Related AE: the investigator assessed there was a reasonable possibility that the vaccine contributed to the AE | | |
| Safety Results: Number (%) of subjects with Serious Adverse Events (SAEs) during the entire study period (Total vaccinated cohort) | | |
| Serious adverse event, n (%) [n considered by the investigator to be related to study medication] | | |
| All SAEs | FluAS03 Group N = 75 | Flu Group N = 75 |
| Subjects with any SAE(s), n (%) [n assessed by investigators as related] | 0 (0.0) [0] | 1 (1.3) [0] |
| Coronary artery disease | 0 (0.0) [0] | 1 (1.3) [0] |
| Fatal SAEs | FluAS03 Group | Flu Group |
| Subjects with any SAE(s), n (%) [n assessed by investigators as related] | 0 (0.0) [0] | 0 (0.0) [0] |

Conclusion: Before vaccination, the percentage of subjects in the FluAS03 and Flu groups who had HI antibody titres $\geq 1:40$ against the A/New Caledonia, A/Wisconsin and B/Malaysia virus strains was 54.1% & 73.0%, 47.3% & 59.5% and 37.8 & 52.7%, respectively; at Day 21 following vaccination, the percentage of subjects in the FluAS03 and Flu groups who had HI antibody titres $\geq 1:40$ against the A/New Caledonia, A/Wisconsin and B/Malaysia virus strains was 91.9% & 98.6%, 93.2% & 95.9% and 97.3 & 94.6%, respectively.

Across groups, pain and fatigue were the most frequently reported solicited local and general symptoms, respectively. In the FluAS03 Group, 31 (41.3%) subjects reported unsolicited AEs of which 1 was of grade 3 intensity and 11 were considered by the investigators to be related to the study vaccination. In the Flu Group, 22 (29.3%) subjects reported unsolicited AEs, none of which were of grade 3 intensity and 7 of which were considered by the investigators to be related to the study vaccination.

One SAE was reported for 1 subject in the Flu Group; it was assessed by the investigator as not related to the study vaccination. No fatal SAEs were reported throughout this study.