

# A new paper confirms presence of DNA in COVID-19 shot vials, settles issues pertaining DNA quantification methods, shows spike persistence and exosomal shuttling (shedding

And this was done in human cells...



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Ulrike Kämmerer, Verena Schulz and Klaus Steger have just published what might be the paper of the century entitled: "[BioNTech RNA-Based COVID-19 Injections Contain Large Amounts Of Residual DNA Including An SV40 Promoter/Enhancer Sequence](#)". It got through peer review on December 3, 2024 and it confirms much of what has already been evidenced and answers many questions lingering in the background.

Let's unpack their results:

We demonstrate successful transfection of nucleoside-modified mRNA (modRNA) biologicals into HEK293 cells and show robust levels of spike proteins over several days of cell culture. Secretion into cell supernatants occurred predominantly via extracellular vesicles enriched for exosome markers. We further analyzed RNA and DNA contents of these vials and identified large amounts of DNA after RNase A digestion in all lots with concentrations ranging from 32.7 ng to 43.4 ng per clinical dose. This far exceeds the maximal acceptable concentration of 10 ng per clinical dose that has been set by international regulatory authorities. Gene analyses with

selected PCR primer pairs proved that residual DNA represents not only fragments of the DNA matrices coding for the spike gene, but of all genes from the plasmid including the SV40 promoter/enhancer and the antibiotic resistance gene.

Spike protein expression in [HEK293](#) cells after transfection with BNT162b2 biologicals is seen in green. This means the LNPs dump their payload successfully into human cells and this payload is translated into spike protein using the cell machinery (ribosomes) as per the design. The spike had a cytotoxic effect on cells (bad for cells = they die) and stuck around for at least 7 days (persistence). And that's just when they stopped measuring. Spike got into the medium that the cells were in: it was released from the cells that were transfected. Spike can be cleaved from the membranes of cells, but, can also be exported in exosomes in full form (uncleaved).

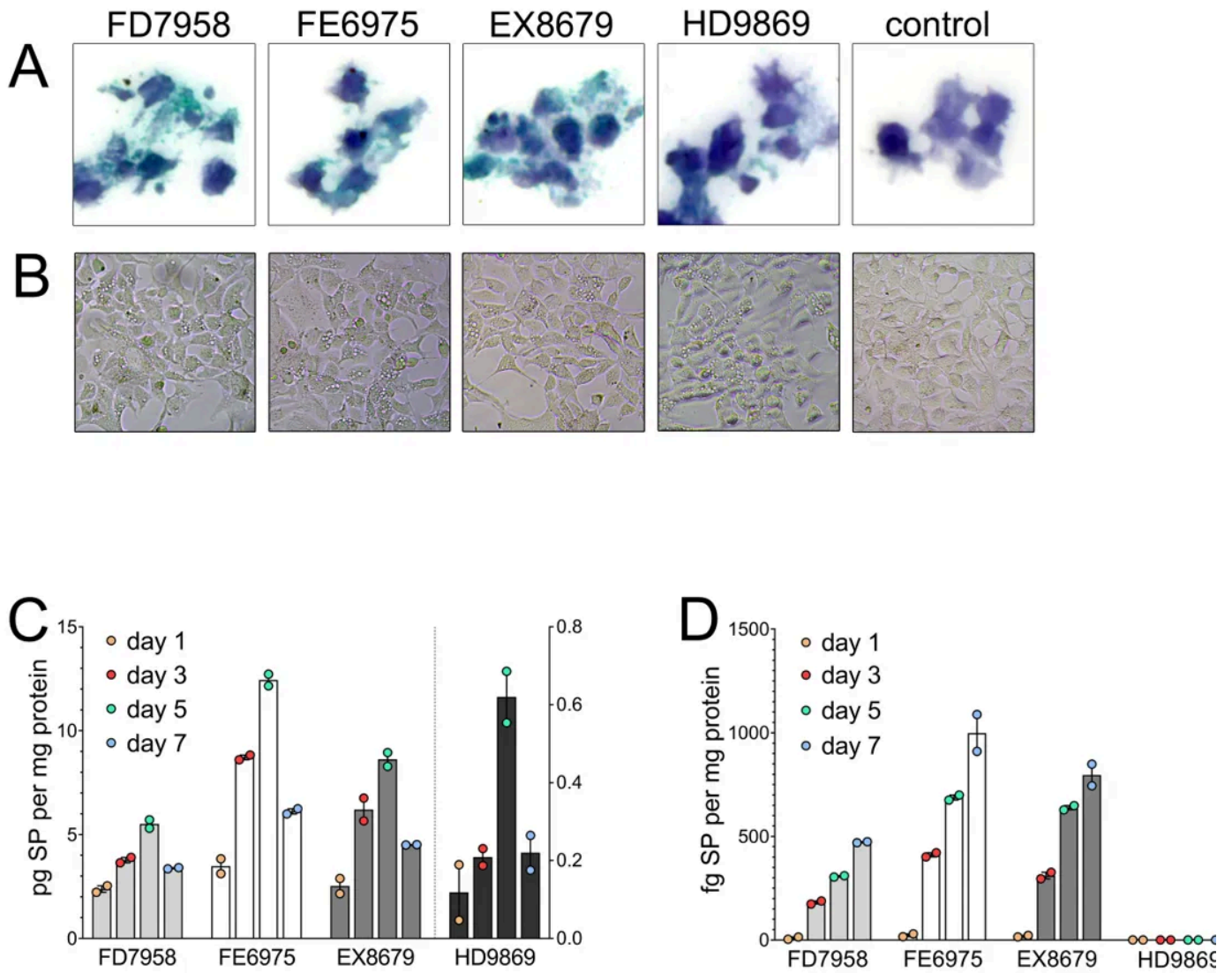


Figure 1: Spike protein expression in HEK293 cells after transfection with BNT162b2 biologicals. Source: <https://publichealthpolicyjournal.com/biotech-rna-based-covid-19-injections-contain-large-amounts-of-residual-dna-including-an-sv40-promoter-enhancer-sequence/>

This is an incredibly important finding and has massive implications for shedd Exosomes - which are like little information carriers between cells - are likely trafficking/shuttling spike to other cells in the *in vivo* setting. Based on these findings, there's no reason to believe they wouldn't be doing this.

The amount of RNA in the injected Pfizer product (30 ug) checks out. The “real amount of DNA that they found after additionally treating with RNase to remo

interfering signals from RNA exceeded EMA limits by 4-5 times.

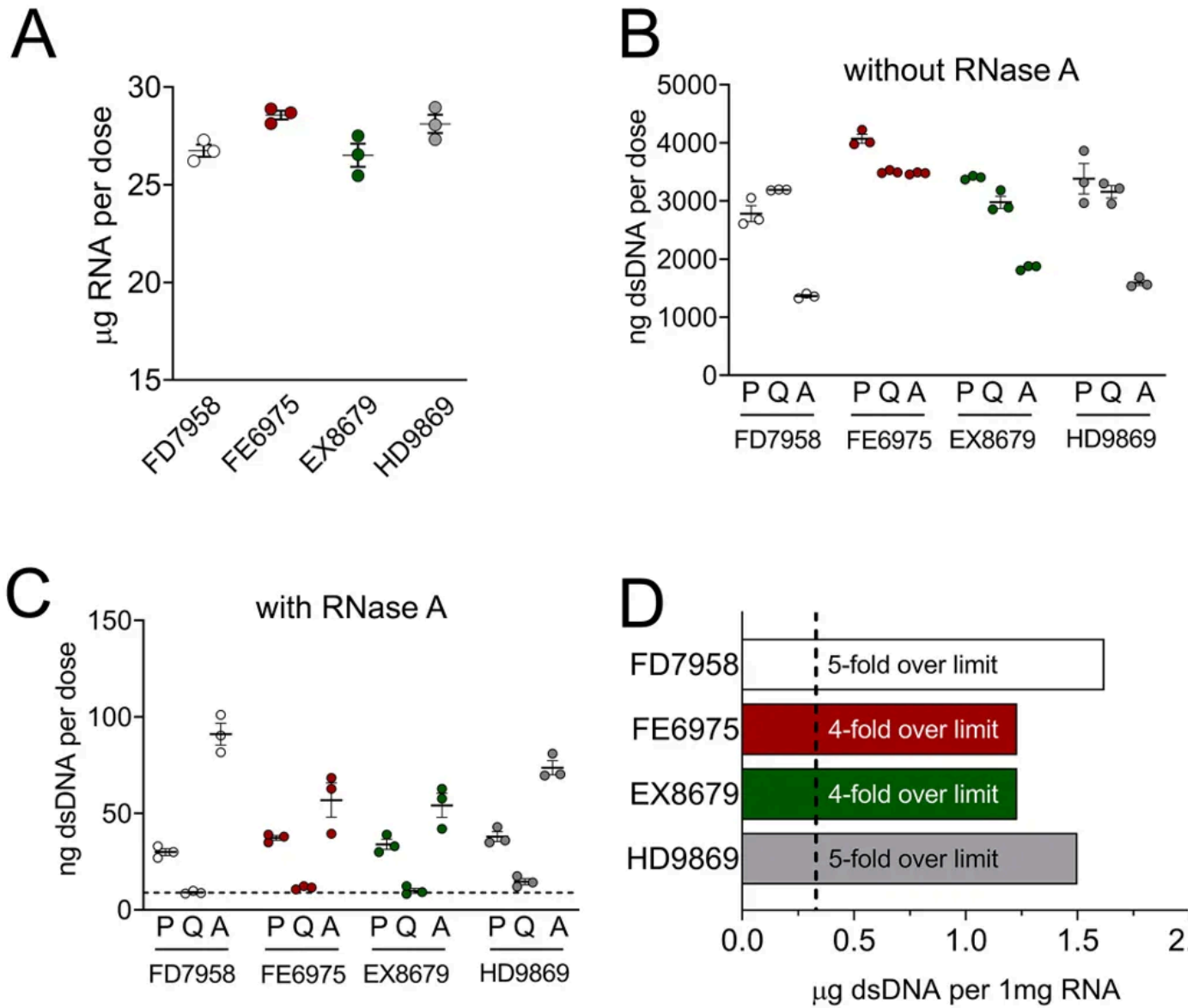


Figure 2: RNA and DNA content of different BNT162b2 biologicals. Source: <https://publichealthpolicyjournal.com/biontech-rna-based-covid-19-injections-contain-large-amounts-of-residual-dna-including-an-sv40-promoter-enhancer-sequence/>

	Without RNase-A		With RNase-A		Factor
	$\mu\text{g} \pm \text{SEM}$ RNA per clinical dose	$\text{ng} \pm \text{SEM}$ dsDNA per clinical dose	$\text{ng} \pm \text{SEM}$ dsDNA per clinical dose	$\mu\text{g}$ dsDNA per mg RNA	
FD7958	$26.74 \pm 0.31$	$2446 \pm 279.7$	$43.38 \pm 12.42$	1.62	5
FE6975	$28.57 \pm 0.22$	$3683 \pm 99.57$	$35.25 \pm 7.06$	1.23	4
EX8679	$26.51 \pm 0.59$	$2745 \pm 233.1$	$32.71 \pm 6.69$	1.23	4
HD9869	$28.12 \pm 0.47$	$2712 \pm 292.8$	$42.09 \pm 8.69$	1.50	5

Figure 3: CRNA and DNA levels (following Triton-X-100 treatment) in the indicated vials of BioNTech lots before and after RNase A treatment. Source: <https://publichealthpolicyjournal.com/biontech-rna-based-covid-19-injections-contain-large-amounts-of-residual-dna-including-an-sv40-promoter-enhancer-sequence/>

All four Pfizer vials that they tested at a dilution of 1:10 showed strong signals for SV40 promoter/enhancer, neomycin cassette, ORI replicon, and spike protein (Figure 3, right), and all transfected HEK293 cells as well (Figure 3, left)!

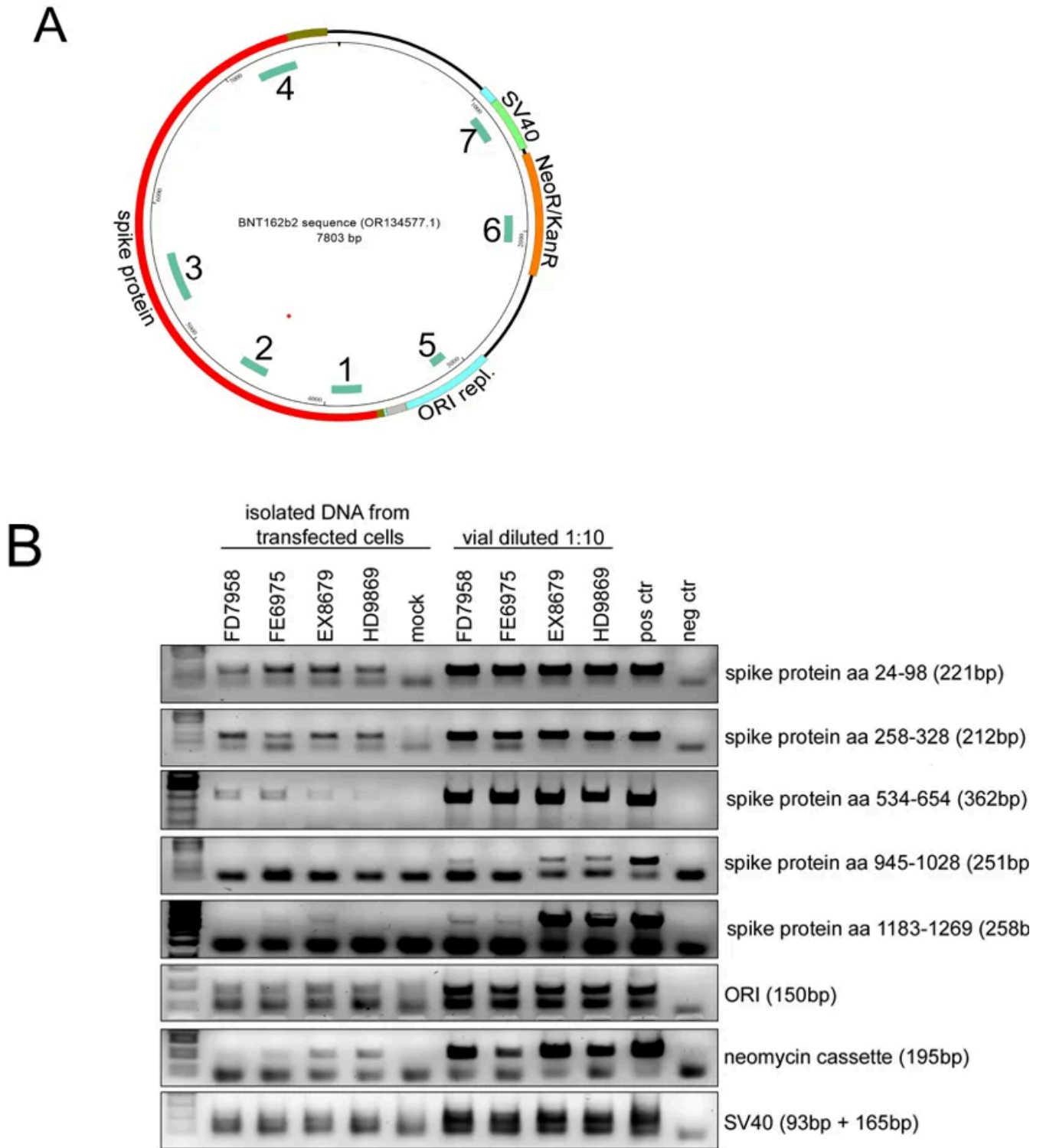


Figure 4: Polymerase chain reaction (PCR) reveals residual DNA of the complete plasmid used in the modRNA production process. Source: <https://publichealthpolicyjournal.com/biontech-rna-based-covid-19-injections-contain-large-amounts-of-residual-dna-including-an-sv40-promoter-enhancer-sequence/>

They blew up the LNPs using Triton-X to get to the most DNA that they could (without having done this, a lot of the DNA is not available for measurement) and checked DNA levels using different 3 methods: Quant-iT PicoGreen dsDNA Assay (P), Qubit 1x dsDNA High Sensitivity Assay (Q), and AccuBlue dsDNA High Sensitivity Assay (A). This is WILDLY INCREDIBLE AND THOROUGH WORK. I hope people appreciate this and also that if the manufacturers and/or regulators did this amount of work/checking, they sure didn't show the public their findings.

	Without Triton X-100	With Triton X-100	Factor
	ng ± SEM dsDNA per clinical dose	ng ± SEM dsDNA per clinical dose	
<b>FD7958</b>	1514.00 ± 142.1	2446 ± 279.7	1.6
<b>FE6975</b>	962.90 ± 98.55	3683 ± 99.57	3.8
<b>EX8679</b>	410.00 ± 43.44	2745 ± 233.1	6.7
<b>HD9869</b>	577.80 ± 61.83	2712 ± 292.8	4.7

Figure 5: DNA levels in the indicated vials of BioNTech batches before RNase A treatment, without and with Triton-X-100 treatment. Source: <https://publichealthpolicyjournal.com/biontech-rna-based-covid-19-injections-contain-large-amounts-of-residual-dna-including-an-sv40-promoter-enhancer-sequence/>

All in all, this paper is an excellent piece of work that confirms the presence of residual DNA that exceeds EMA limits many fold in all Pfizer COVID-19 modRNA-LNP product vials tested. Their methodology for ascertaining “real” DNA levels is second to none and they *do* account for RNA interference and eliminate this problem. They also got the most measurable DNA by treating the LNPs with Triton-X. I wish the manufacturers and regulators could say as much.

Perhaps the most disturbing ‘new’ finding is the release of spike into the cell media via exosomes. The authors write:

In case of an *in-vivo* situation, this would mean that the spike proteins are transported within exosomes to other tissues and organs via the blood stream.

and, consequently, taken up by the target cells. In fact, it has already been reported that spike proteins can be found in exosomes of vaccinated individuals.

This has massive implications for shedding and begs the questions:

**Is this why there are so many people who feel the effects of someone else's modRNA injection after spending a little time with them?**

**Are we all injected by proxy?**

We need a moratorium on this platform (genetic material-LNP-based) and we need follow-up studies so that we can help people who are clearly suffering from what we can call spikeopathy. We basically need to figure a way out of this colossal mess. Together.



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### Discussion about this post

Comments

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**philipat** philipat 6d Edited

♥ Liked by Jessica Rose

Excellent paper obviously designed with anticipation of all the usual likely objections.

It's probably now time for the "Regulators" to give up on this aspect and move along to the next which is "Yes, but even if this is true, there's no evidence of any actual harm caused."



As it's now the Christmas season, perhaps its time to roll out again the old "Christmas tree allerg excuse for all the "unexplained" dramatic incidence of, for instance, turbo cancers? It's a real mys Back in the day, the clear identification of not one but many mechanisms for possibly causing ca and other SAEs would have been enough to withdraw a product from general use. Not now, such the times we find ourselves living in.

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7 replies



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♡ Liked by Jessica Rose

Much appreciation for the pointers, Jessica. Interesting how some experts in the medical field accurately predicted the shedding and longterm excess mortality already back in 2020, eh?! Right the nail. Unfortunately there is no moving forward together, 5 yrs hence. The vaxers adamantly re to listen and have fully and proudly tuned out. Not for lack of trying.

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9 replies by Jessica Rose and others

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