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BECKMAN COULTER Life Sciences

Going Viral

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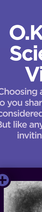
O.K. Capsid: Where Busy Scientists go to Meet the Virus of Their Dreams

Choosing a viral delivery system is a bit like choosing a partner. Do you share goals? Are you truly compatible? Have you seriously considered asking them to carry a bit of your genetic material? But like any relationship, you need to do your homework before inviting a viral delivery system back to your incubator.



- **FAVORITE SONG:** "Express Yourself" – Madonna
- **SAFETY:** BSL-1
- **STABILITY:** Transient
- **CELL-TYPE PREFERENCE:** Free spirit (open to relationships with all cell types)
- **GENOME SIZE:** 36 – 39 kb
- **INSERT CAPACITY:** 8 kb
- **RELATIONSHIP STATUS:** I won't integrate into your DNA. Don't integrate into mine!

PREFERRED VIRUS #1

ADENOVIRUS

I like big transgenes and I cannot lie.

FRIENDS: 2

GENE

HELPER-DEPENDENT ADENOVIRUS

MESSAGES:

HELPER-DEPENDENT ADENOVIRUS

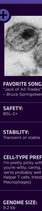
What's wrong, HDAd?

Someone called me gutless today. I don't know why I'm pretty brave.

Aw, they were just talking about your ability to carry up to 32 kb of foreign DNA!

Enter your message here, please

SEND



- **FAVORITE SONG:** "Lies Of All Sizes" – Bruce Springsteen
- **SAFETY:** BSL-2+
- **STABILITY:** Transient or stable
- **CELL-TYPE PREFERENCE:** I'm pretty picky with my type, but if you're willing to get to know me, we're probably well suited (Brain, Helper T cells, Intestinal epithelia, Macrophages)
- **GENOME SIZE:** 8.2 kb
- **INSERT CAPACITY:** 16 – 8 kb
- **RELATIONSHIP STATUS:** Love me, love my packaging plasmid

PREFERRED VIRUS #2

LENTIVIRUS

I'm a VLP – a very important particle, so I get through the door at all of the best spots.

FRIENDS: 4

GENE

FOAMY VIRUS

RETROVIRUS

PEGIVIRUS

MESSAGES:

FOAMY VIRUS

Hey Lev, what's your secret to such highly efficient delivery to neurons?

It's simple, really. I just slip in at the nuclear pore

Enter your message here, please

SEND

- **FAVORITE SONG:** "Safety Dance" – Men Without Hats
- **SAFETY:** BSL-1 (Without helper virus)
- **STABILITY:** Transient
- **CELL-TYPE PREFERENCE:** Open minded (open to relationships with all cell types)
- **GENOME SIZE:** 4.7 kb
- **INSERT CAPACITY:** 4.5 kb
- **RELATIONSHIP STATUS:** Perpetual Third Wheel

PREFERRED VIRUS #3

ADENO-ASSOCIATED VIRUS

Safety first! Packaging second... or third.

FRIENDS: 4

GENE

ADENOVIRUS

HERPES SIMPLEX VIRUS

EPSTEIN-BARR VIRUS

MESSAGES:

EPSTEIN-BARR VIRUS

I'm so tired of all this talk about the hazards of viral gene delivery.

Me too! That's why I'm starting a campaign to limit genome integrations to chromosome 19 where they have no discernable effect!

Enter your message here, please

SEND

- **FAVORITE SONG:** "Smells and Celebell" – Hozier Oo
- **SAFETY:** BSL-2+
- **STABILITY:** Stable
- **CELL-TYPE PREFERENCE:** Looking for an active partner, actively dividing, that is
- **GENOME SIZE:** 9 kb
- **INSERT CAPACITY:** 9 kb
- **RELATIONSHIP STATUS:** Serial Monogamy

PREFERRED VIRUS #4

RETROVIRUS

Division is a delicious, and I choose dividing cells!

FRIENDS: 4

GENE

LENTIVIRUS

FOAMY VIRUS

REVERSE TRANSCRIPTASE

MESSAGES:

LENTIVIRUS

You're such a show off! Reverse transcription is all smoke and mirrors.

Oh yeah? Why can't you say hello to my little friend? @#!

REVERSE TRANSCRIPTASE

Hello

Enter your message here, please

SEND

Beckman Coulter Life Sciences

Beckman Coulter Life Sciences is dedicated to empowering discovery and scientific breakthroughs. The company's global leadership and world-class service and support deliver sophisticated instrument systems, reagents and services to life science researchers in academic and commercial laboratories, enabling new discoveries in biology-based research and development. A leader in centrifugation and flow cytometry, Beckman Coulter has long been an innovator in particle characterization and laboratory automation, and its products are used at the forefront of important areas of investigation, including genomics and proteomics. For more information, visit beckman.com/home. Follow Beckman Coulter Life Sciences on Twitter @BCLifeSciences; Facebook: BCLifeSciences; and LinkedIn

Janet looked for a partner that would quickly show her **a band.**

The Optima XPN ultracentrifuge with AUC, a high-performance processing application

Her last relationship was plagued by separation anxiety and a lack of clear boundaries. Then Janet met her match. Now she trusts the Optima XPN to meet all her preparative ultracentrifugation needs.

With options ranging from 80,000 – 100,000 RPM, she's not concerned about things going too slowly.

And the Optima XPN's tracking features—as well as multi-level BioSafety™ attributes—give her the peace-of-mind she looks for in a long-term relationship.

Jay, however, wanted to **characterize his options.**

Data provided by the Optima AUC Data Analysis Tool, Proc Cytometer (right).

Jay was passionate about thoroughly getting to know all types of particles—from nanovesicles to macromolecules, and countless others in between.

That's why the Optima AUC analytical ultracentrifuge caught his eye. He quickly knew they were on the same wavelength (actually 2D wavelengths), and he'd never gotten information faster.

But another characterization technique—the CytoFLEX Flow Cytometer*†—presented optimal excitation too. Never before had Jay seen a research platform that pushed the boundaries of what's possible with benchtop flow cytometry.

Jay wanted to see as much as possible.

Meet your centrifuge match

Visit info.beckmancoulter.com/thecentrifugeforme to learn more.

*For Research Use Only. Not for use in diagnostic procedures.

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