

HOW DOES DIGITAIL[™] COMPARE TO ALTERNATIVE METHODS?

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ELEMENT	DIGITAIL BY SOMARK	THE COMPETITION
PARTS	Cartridges, each one preloaded with an RFID tag.	Needles, tags, some assembly may be required. Or a large disposable device.
TAG SIZE	Absolute smallest RFID tag on the market. Volume: less than 1 microliter Weight:1.4 milligrams	Larger by at least 17x. Volume: 13 to 40+ microliters Weight: 27 to 100 milligrams
ASSEMBLY	Twist the luer-lock needle onto the Injector, which is reusable for 1,000+ injections.	May have to load tags into the needle or injection tool.
MOUSE RESTRAINT	Magnetic Red Dome restraint. The same design used by Labstamp to tattoo millions of mice. Mice are tagged fully awake.	Either no restraint is provided, or a restraint is used that gives access to the back which can be stressful. Two person method is also used but doubles labor cost, and chemical restraints result in anaesthetics which are stressful to the animal.
INJECTION PREP	Wipe the tail with an alcohol pad.	Shave a 2cm square patch on the back of the neck. Prep skin with an alcohol pad.
INJECTION	Smallest needle in the industry (21G) One person method, press button to deliver tag as needle exits.	Larger gauge needles require more pressure to enter the skin and leave a hole that often needs to be closed with wound glue to prevent tags from backing out.
CONFIRMATION	Digitail can be seen through the skin. Lifetime verification by visual observation.	No way to know precisely where the tag is, or if it is even in the animal except to read it. Can not compare a read fail and a tag loss.
PERSONNEL SAFETY	The Somark restraint immobilizes the animal so that the injection is given to a still animal. The needle retracts into the hub to reduce risk of needle stick.	Larger needles pose more risk to handlers. Risk of needle stick when tenting the skin for an injection on an awake animal.

MIGRATION	Never an issue with the placement in the tail.	Try to track where the tag is on each animal, and be wary it may migrate over time. Some get delivered into the thoracic cavity too.
READING	UHF readers are faster than any other RFID technology. Set the mouse on the reader, the LinkTo app reports the read.	Point a handheld reader at the back, or last known location of the tag. Tags may migrate. Larger tags might be self-removed or fall out the entry point.
COMPATABILITY	No ferrous material so compatible with all imaging such as MRI or CT Scan.	Ferrous antennas in the tag can cause some interference with MRI images.
TAG COATING	Completely coated in bioinert parylene-C, the same material used to coat human devices such as pacemakers.	Glass capsules, may be partially coated in parylene.
WASTE	Only the collapsed needle hub needs to be discarded for each mouse.	The needle and hub, and in many cases the complete disposable assembly, are discarded for each mouse.
TAG RE-USABILITY	Somark tags cannot be re-used, assuring that the unique ID number will not be used for another animal.	It may be possible to remove the larger glass tags, clean them and reuse them in another study (if QA and Vet Services approve)
ANIMAL WELFARE	Digitail is designed by an animal ID company to be small size for small animals, easily injected and read quickly, all to provide better welfare.	Tags for rodents adopted from other species. Implantation process is more traumatic to the animal.
PERSONNEL RISK FROM FREQUENT USE	The Somark Injector is held in a natural position, minimizing the risk of RSI (carpal tunnel injury).	Injector position varies and can involve twisting the wrist to get the needle in place, risk of RSI.





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