Supporting Information

Comparative uptake and biological distribution of C6 and C8 [^{18}F]-labeled perfluorinated alkyl substances in pregnant mice via different routes of administration.

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Figure S1. Representative images illustrating [^{18}F]FDG uptake at **(A)** 0-5 min post tail vein injection, **(B)** 55-60 min post tail vein injection, **(C)** 0-5 min post oral gavage ingestion and **(D)** 55-60 min post oral gavage ingestion. For each letter, a representative coronal slice view (left of scale) and summed maximal intensity projection (MIP- right of scale) is given. All organs and tissues readily observed are labeled as follows: h = heart; l = liver, p = placenta, b = bladder, k = kidney, f = fetus, s = stomach and int = intestine.

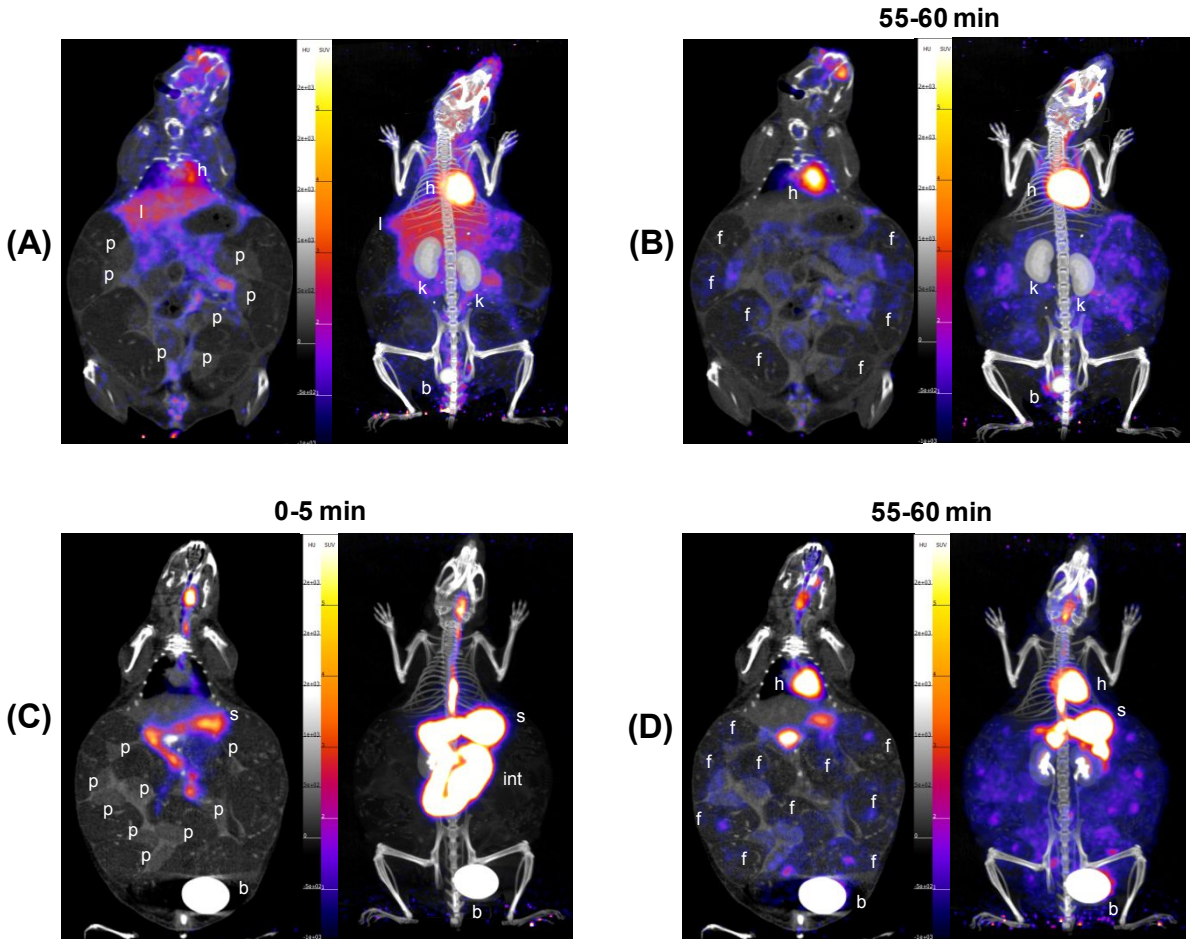


Figure S2. Representative MIP (CT only) of a mouse with regions of interest drawn within each fetus (larger spheres) and placenta (smaller spheres).

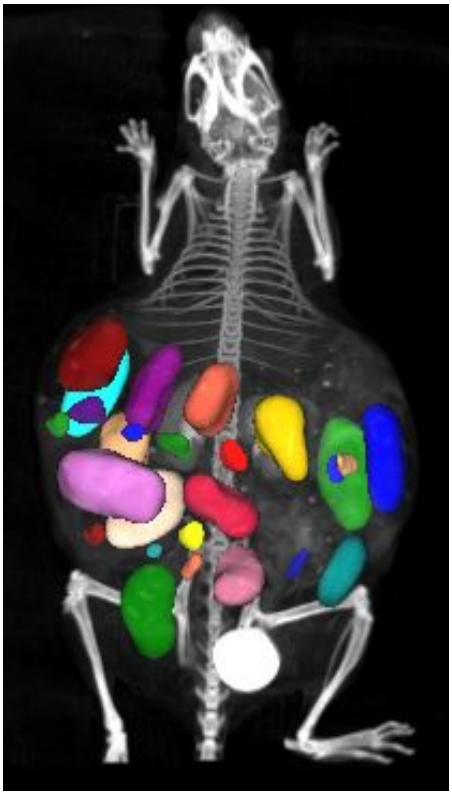
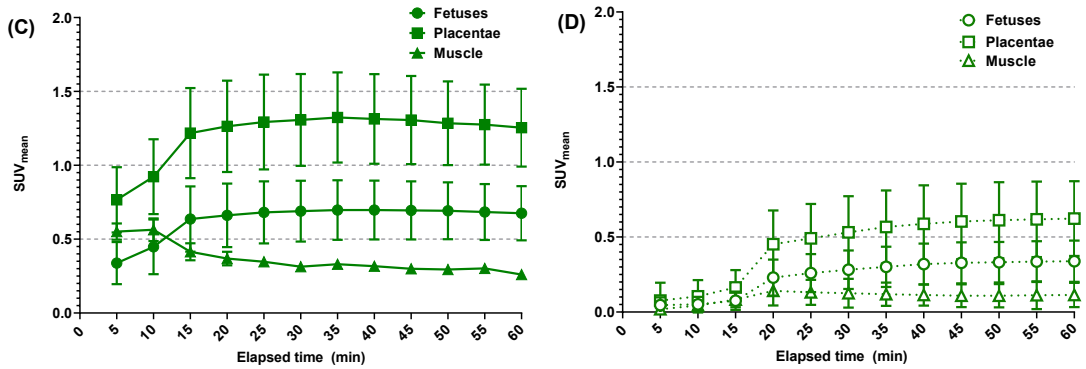


Figure S3. Representative time activity curves for the uptake of **(A)** [^{18}F]FDG vial tail vein and **(B)** oral gavage. The data in the fetuses (circles), placentae (squares) and muscle (triangle) are presented as an average ± standard deviation. Solid lines and filled in shapes are indicative of tail vein studies while dotted line and outlined shapes are oral gavage studies.



TAC analysis of [^{18}F]FDG as expected illustrated a different trend. With both studies, the uptake was slow and the tracer uptake appeared to plateau around 20-25 min after dosing. At 25 min the SUVmean in the placentae and fetuses was 1.29 ± 0.32 and 0.68 ± 0.21 while at 60 min, the values were 1.25 ± 0.26 and 0.68 ± 0.18, respectively. As with the [^{18}F]C8 and [^{18}F]C8 oral gavage studies, initial uptake of [^{18}F]FDG was lower in placentae and fetuses as well with just 0.08 ± 0.12 and 0.046 ± 0.05, respectively. This high standard deviation is probably due to the differences in time from start of fasting to start of the individual mouse study. The longer the fasting, the more desire for the body to metabolize sugar in the form of [^{18}F]FDG. The placentae and fetuses still followed the same trend as observed in the tail vein injection, although the tracer uptake plateau was around 45 min instead of 25 min as seen in the tail vein injection.

Table S1. Statistical comparison (P values) when comparing uptake of [^{18}F]C8, [^{18}F]C6, and [^{18}F]FDG at 1 hour post **(A)** tail vein injection and **(B)** oral gavage. Red wording is indicative of significance.

(A)

	[^{18}F]C6 vs [^{18}F]C8	[^{18}F]FDG vs [^{18}F]C8	[^{18}F]FDG vs [^{18}F]C6
Blood	0.055	0.021	**0.011**
Heart	0.831	0.021	**0.011**
Lungs	0.394	0.043	**0.011**
Pancreas	0.201	0.564	0.67
Spleen	0.67	0.021	**0.011**
Stomach	0.088	0.021	**0.011**
Liver (all)	0.028	0.021	**0.014**
Kidneys	0.201	1	0.055
Sm Intestine	0.033	0.773	0.033
L Intestine	**0.011**	0.021	0.201
Fat	0.088	0.564	0.201
Skin	0.522	0.564	0.67
Muscle	0.201	0.149	0.088
Femur	0.831	0.773	0.831
Brain	**0.011**	0.021	**0.011**
Uteruses	0.033	0.773	**0.011**
Fetuses	0.019	0.266	**0.005**
Placentae	0.083	**<0.0001**	**<0.0001**

(B)

	[^{18}F]C6 vs [^{18}F]C8	[^{18}F]FDG vs [^{18}F]C8	[^{18}F]FDG vs [^{18}F]C6
Blood	**0.014**	**0.016**	1
Heart	**0.014**	**0.009**	**0.014**
Lungs	**0.014**	0.076	**0.014**
Pancreas	0.028	0.917	0.050
Spleen	**0.014**	**0.009**	**0.014**
Stomach	NA	0.117	NA
Liver (all)	**0.014**	**0.009**	0.086
Kidneys	**0.014**	0.117	0.028
Sm Intestine	**0.014**	0.465	**0.014**
L Intestine	0.050	**0.016**	**0.014**
Fat	**0.014**	0.251	0.142
Skin	**0.014**	0.917	**0.014**
Muscle	0.086	0.251	0.624
Femur	**0.014**	0.465	0.050
Brain	0.221	**0.009**	**0.014**
Uteruses	**0.014**	0.251	**0.014**
Fetuses	0.092	0.201	**0.014**
Placentae	0.528	**0.012**	**0.006**