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Supplementary Information

Non-invasive assessment of a local overexpressed human Adenosine 2A Receptor with [^{18}F]FLUDA in the heart of a transgenic mouse model by PET

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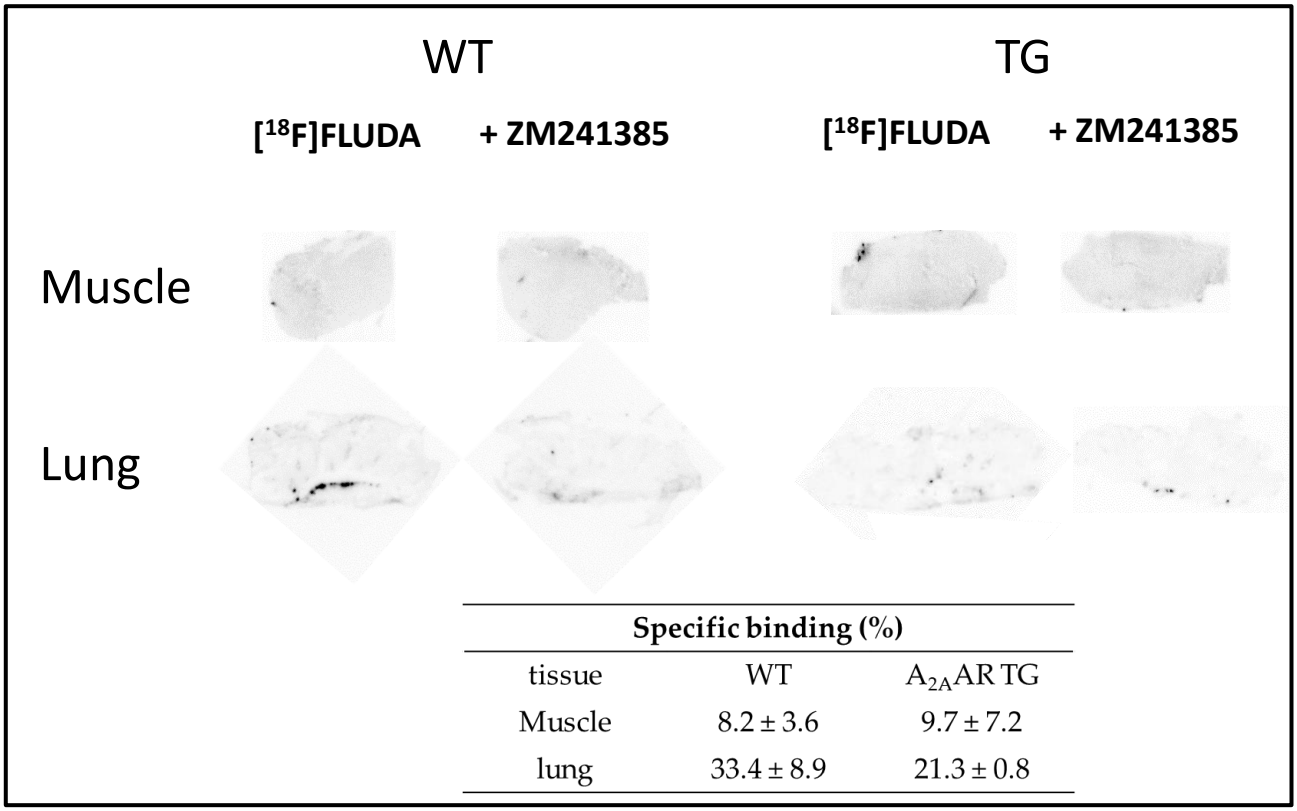

Specific binding (%)		
tissue	WT	A_{2A}AR TG
Muscle	8.2 ± 3.6	9.7 ± 7.2
lung	33.4 ± 8.9	21.3 ± 0.8

Figure S1. *In vitro* binding study of [^{18}F]FLUDA to control tissue cryosections (muscle and lung) with and without 10 μM ZM241385 (each n = 2) to determine the specific binding of the radioligand.

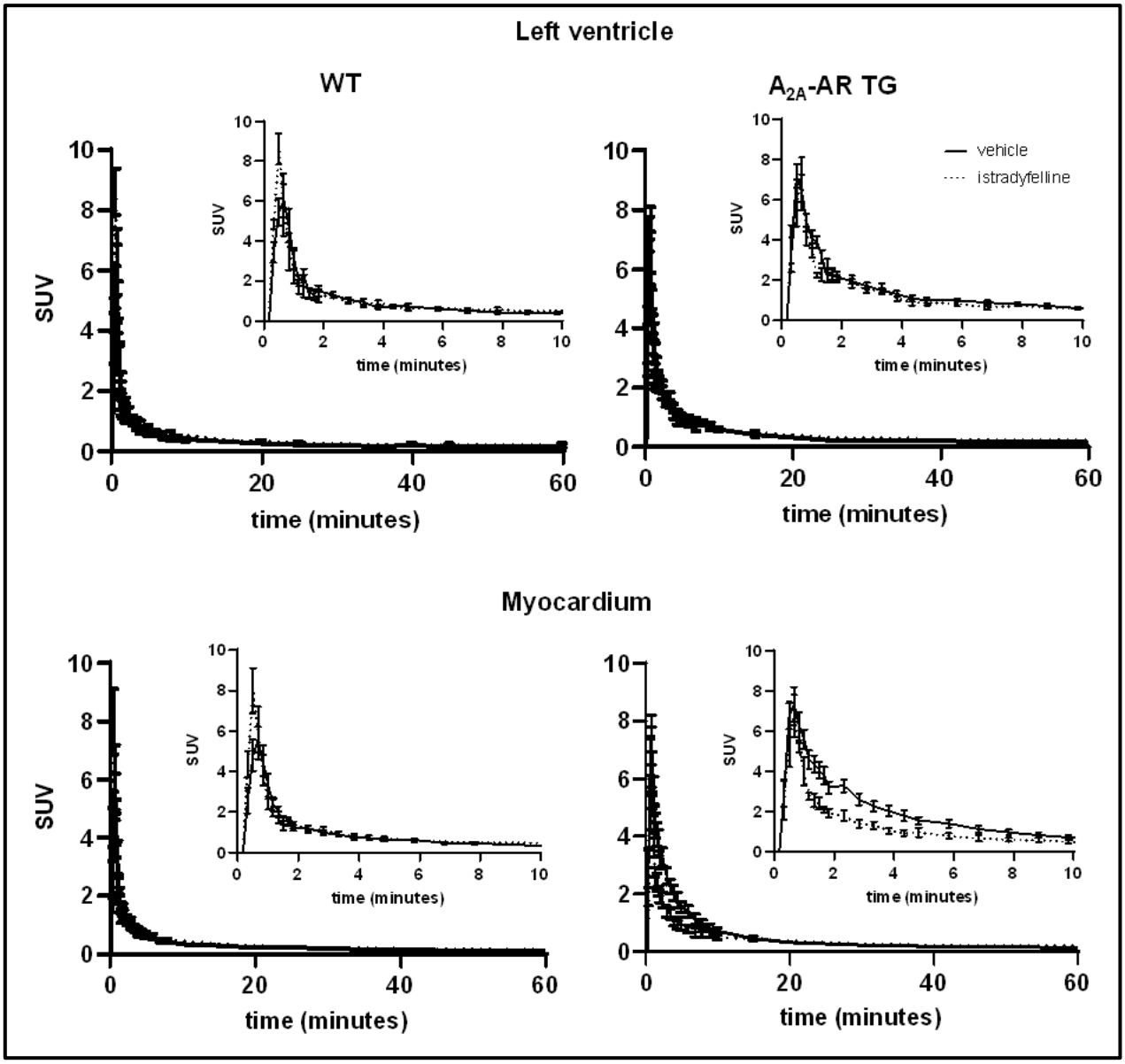

Figure S2. Dynamic PET imaging analysis of the [^{18}F]FLUDA concentration in the blood compartment (Left ventricle) and the radiotracer uptake of the myocardium in WT (n = 6) and A_{2A}-AR TG (n = 6) mice. The time activity curves after radiotracer administration are represented in mean activity concentrations as standardized uptake values (SUV_{mean}±SEM) in the delineated volume of interests of indicated tissue regions. Mice were pre-treated with vehicle or 1 mg/kg bodyweight istradefylline 10 minutes prior radiotracer application.

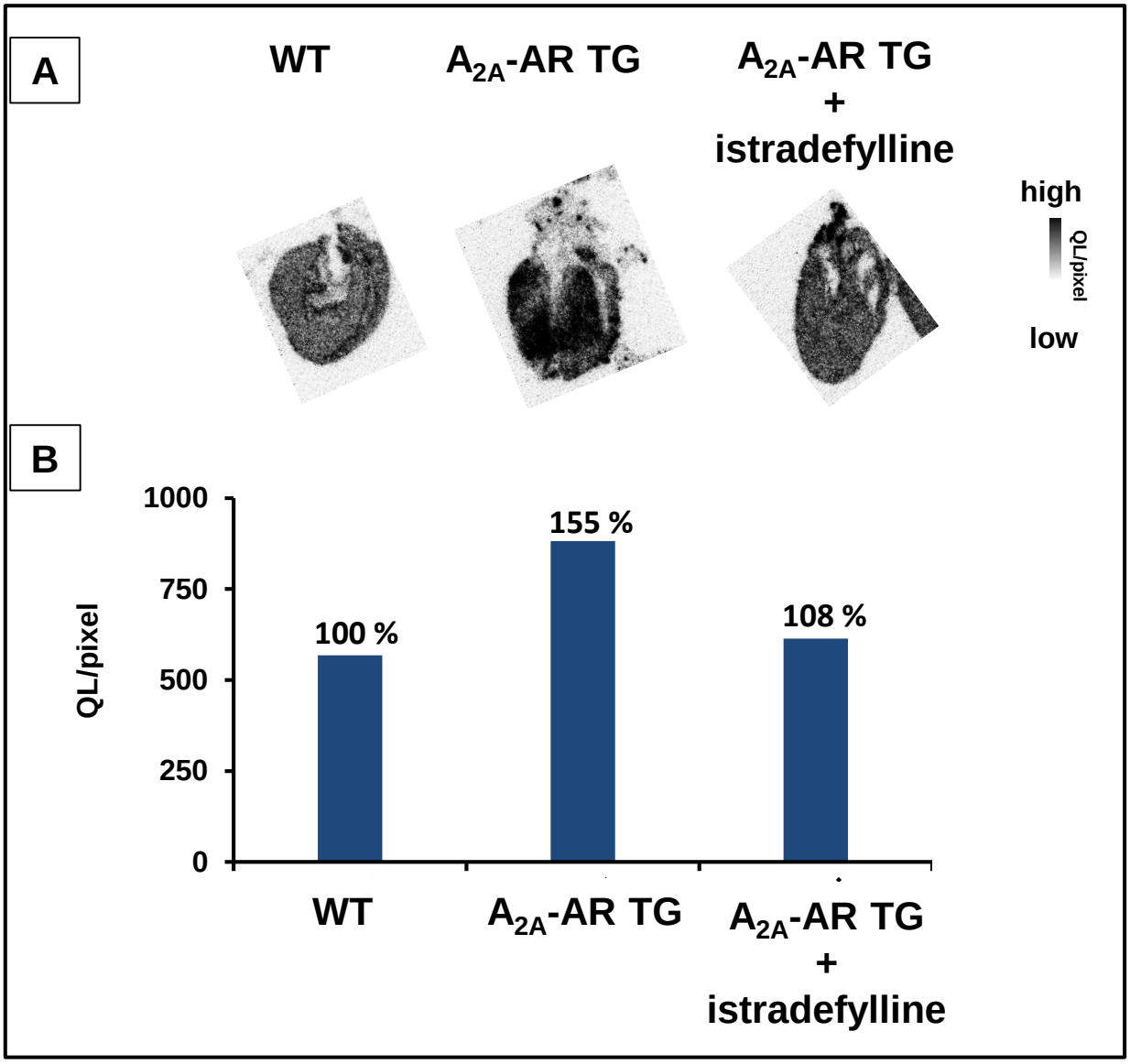

Figure S3. Exemplary *ex vivo* autoradiographic images (A) and the according analysis (B) of [^{18}F]FLUDA accumulation in heart at 15 min p.i. of the radioligand in cryosections of murine heart (16 µm) of WT and A_{2A}-AR TG (with and without preadministration of istradefylline, n=1).

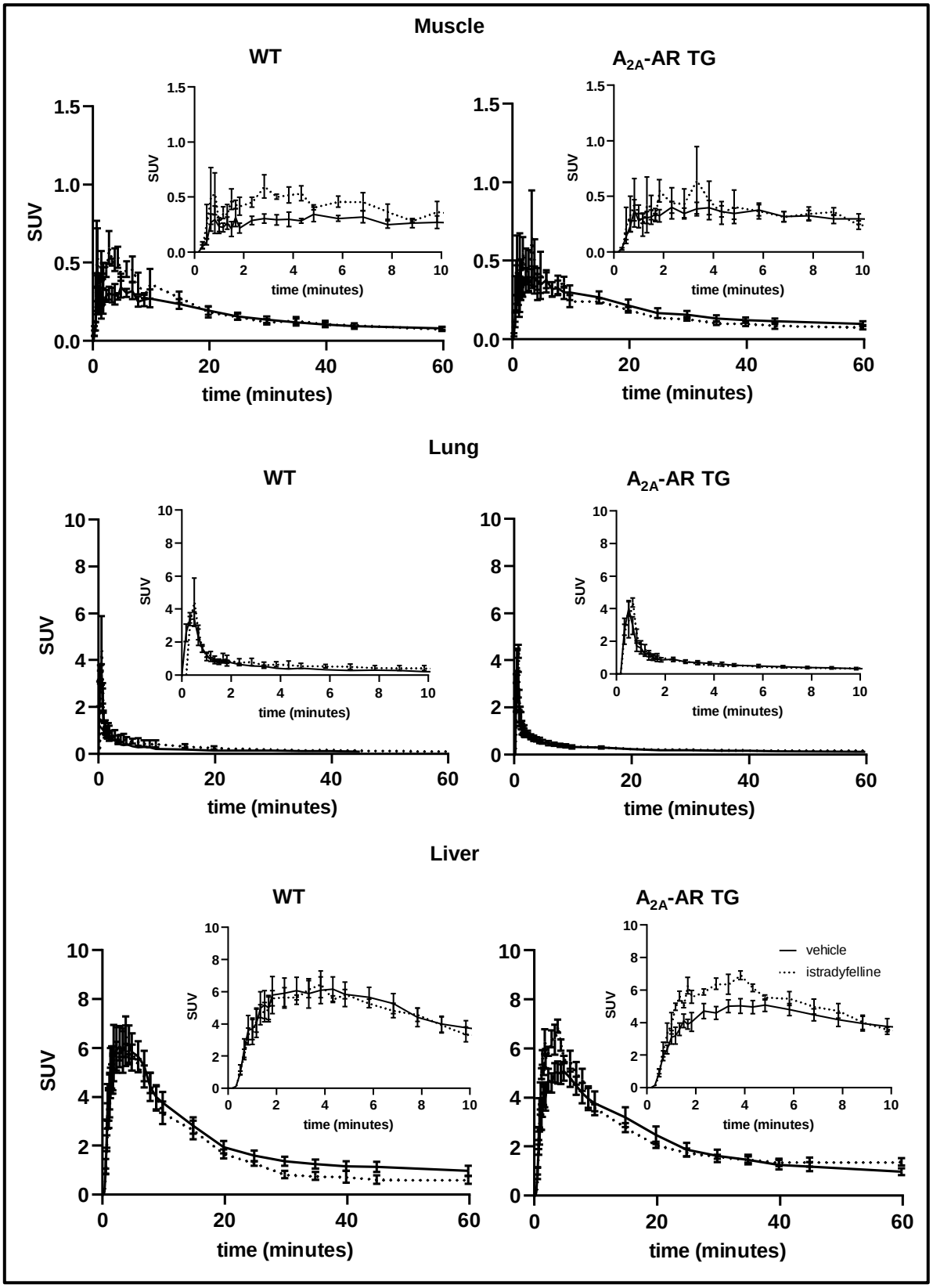

Figure S4. Dynamic PET imaging analysis of the [^{18}F]FLUDA concentration in the blood and of the radiotracer uptake of different tisssues in WT (n = 6) and A_{2A}-AR TG (n = 6) mice. The time activity curves after radiotracer administration are represented in mean activity concentrations as standardized uptake values (SUV_{mean}±SEM) in the delineated volume of interests of indicated tissue regions. Mice were pre-treated with vehicle or 1 mg/kg bodyweight istradefylline 10 minutes prior radiotracer application.

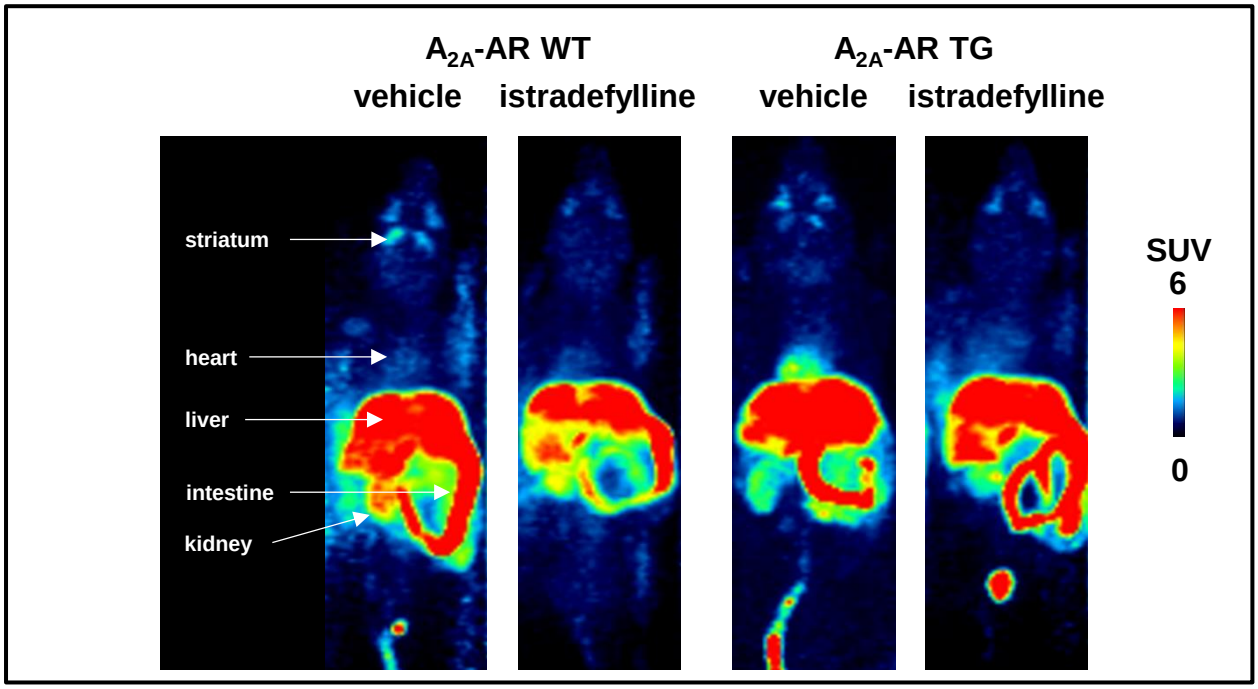

Figure S5. Representative averaged whole body maximum intensity projections (MIPs) from 1 to 10 min p.i. of the PET acquisition of [^{18}F]FLUDA in WT and A2A-AR TG with or without preadministration of istradefylline.