Biologics: *Overview, Dosing, and Efficacy*

Biologics Comparison	Xolair™ (omalizumab)	Nucala ™ (mepolizumab)	Fasenra™ (benralizumab)	Cinqair™ (reslizumab)	Dupixent™ (dupilumab)	Tezspire™ (tezepelumab)
Manufacturer	Genentech	GSK/Novartis	AstraZeneca	Teva	Sanofi/Genzyme	AstraZeneca
Approved age	≥ 6 years	≥ 6 years	≥ 12 years	≥ 18 years	≥6 years	≥ 12 years
Number of doses/year	12-26	12	8	12	12-28	12
Dosing	Based on total IgE and weight SQ every 2-4 weeks	≥12: 100 mg SQ every 4 weeks 6-11: 40 mg SQ every 4 weeks	30 mg SQ every 4 weeks x 3 doses, then 30 mg SQ every 8 weeks	3 mg/kg IV every 4 weeks	Dosing depends on age, weight, indication: every 2-4 weeks	210mg SQ every 4 weeks
Available as pre-filled syringe	Yes (75 mg & 150 mg)	Yes (100 mg)	Yes (30 mg)	No	Yes (200 mg & 300 mg)	Yes
Available as auto-injector	No	Yes (100 mg)	Yes (30 mg)	No	Yes	No
Mechanism of Action	IgE antagonist	IL-5 antagonist	IL-5 antagonist	IL-5 antagonist	IL-4 and IL-13 dual inhibitor	Thymic stromal lymphopoietin (TSLP) inhibitor
Qualifying lab data	Total IgE ≥ 30 IU/mL	Eosinophils ≥ 150 cells/µL	Eosinophils ≥ 150 cells/µL	Eosinophils ≥ 400 cells/µL	None required but benefits seen with Eosinophils ≥ 150-300 cells/uL	None required
Reduction (%) in Exacerbation	48%-58% reduction at 16 weeks	53% reduction at 32 weeks (MENSA trial) 58% reduction at 24 weeks (MUSCA trial)	51% reduction at 48 weeks (SIRROCO trial)	50-59% reduction at 52 weeks (Trial 1 &2)	Trial 1: 71-81% reduction at 24 weeks Trial 2: 66-67% reduction at 52 weeks (eos≥300) OR 46-48% reduction at 52 weeks (eos≥150)	Reduced exacerbations by up to 75% (PATHWAY trial) and 56% (NAVIGATOR trial)
Reduction (%) in OCS dose	75% reduction	50% reduction (SIRIUS trial)	75% reduction (ZONDA trial)	N/A	28% reduction (VENTURE trial)	No significant reduction (SOURCE trial)
Patient assistance program	Yes	Yes	Yes	Yes	Yes	Yes